

A TAXONOMIC REVISION OF THE GENUS *ORNATIVALVA* GOZMÁNY, 1955 (LEPIDOPTERA : GELECHIIDAE)

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CONTENTS

	<i>Page</i>
SYNOPSIS	87
INTRODUCTION	87
HEAD PREPARATIONS	90
ABBREVIATIONS OF MUSEUMS AND INSTITUTIONS	90
ACKNOWLEDGEMENTS	90
<i>Ornativálva</i> GOZMÁNY, 1955	91
THE SYSTEMATIC POSITION OF <i>Ornativálva</i>	95
KEY TO THE SPECIES OF <i>Ornativálva</i> : MALES	96
KEY TO THE SPECIES OF <i>Ornativálva</i> : FEMALES	98
CHECK-LIST OF THE SPECIES OF <i>Ornativálva</i>	100
The <i>heluanensis</i> -group	101
The <i>erubescens</i> -group	106
The <i>ornatella</i> -group	116
The <i>plicella</i> -group	117
The <i>tamariciella</i> -group	119
The <i>plutelliformis</i> -group	127
The <i>cerostomatella</i> -group	135
BIBLIOGRAPHY	143
TEXT-FIGURES	148
INDEX	151

SYNOPSIS

The Old World genus *Ornativálva* Gozmány is revised. The primary types of all but two of the discussed nominal species have been examined. Forty-three species and one subspecies are regarded as valid. Twelve new species are described and four new synonyms in species rank are established; *Nothris minutella* Turati is removed from the synonymy of *O. cerostomatella* (Walsingham) and transferred to *Anarsia* Zeller. Keys to the species are provided, head structures with frontal processes are described and illustrated for a number of species, and the biology and distribution are discussed for all species.

INTRODUCTION

SINCE the publication of a taxonomic revision of the genus *Ornativálva* Gozmány (Sattler, 1967), further collections have become available, including a number of undescribed species. Particularly valuable material was received from Dr Z.

Kaszab, Természettudományi Múzeum, Budapest, who has made several expeditions to Mongolia. As a result of Dr Kaszab's collections in Mongolia many papers were published under the title *Ergebnisse der Zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei*. The present paper is no. 362 in that series.

During his first expedition Dr Kaszab discovered the first Mongolian *Ornativulva* species. Once alerted, he paid special attention to this genus and during subsequent trips collected extensively in localities in which *Tamarix*, the host-plant of the *Ornativulva* larvae, was observed. This resulted in a collection of about 200 specimens, representing at least 17 species, 7 of which are described as new in this paper. A separate publication on the Mongolian *Ornativulva* species could not be justified, as taxonomic papers which are based entirely on a limited geographical area and include descriptions of new taxa are generally unsatisfactory. Instead, the earlier publication (Sattler, 1967) is revised to include all additional material which has become available since 1967.

In the course of the present work revised keys to the species are provided and each species is discussed. Descriptions and illustrations published previously are not repeated, but are supplemented or corrected where additional material makes this possible.

Several species are illustrated in colour (Pl. 1). The colour figures are generally based on one particular specimen; however, where no perfect model was available, the artist was supplied with additional examples to facilitate the reconstruction of parts which are damaged on the model specimen.

The measurements at the beginning of each description are those of the fore wing length of the smallest and biggest specimen measured in millimetres from the base to the apex of the wing. Sometimes only inadequate material was available, for example, rubbed specimens without fringes or specimens with curled or damaged apex and distorted wing base; therefore many measurements are necessarily approximate. Where only a limited number of specimens was available the variation in size may, of course, be greater than is indicated by the recorded measurements.

A number of *Ornativulva* species have modified head structures with enlarged scale bases, prominent frons or distinct frontal process. These structures were not described in 1967. Where applicable, descriptions and illustrations of the modified head structures are provided in this paper.

The terminology of the genitalia follows Klots (1956). A separate process at the base of the costa for which no suitable term was found is called 'harpe' in the present paper following the terminology used previously (Sattler, 1967).

Under 'Distribution' only the countries are listed; however, if a species is restricted to a limited area of a country or if it is only known from one locality, this is expressed, for example, 'Italy (Sicily)' or 'S. Iran'. All distribution records are based on material examined by myself unless stated otherwise. Each specimen is recorded in my card index and bears my determination label. Material which was considered in 1967 is not listed in the present paper; additional material is recorded under the heading 'Further material examined'.

Kaszab (1963; 1965; 1966; 1968) gave detailed accounts of his journeys in Mongolia. Each collecting site is identified by a number which also appears on the data labels

of the specimens. These numbers are recorded in the present paper under 'Material examined' and follow the collector's name, for example, '(Kaszab, no. 840)'. The collecting sites of the British Museum (Natural History) Southern African Expedition are identified by similar numbers on the specimen labels. Photographic records and detailed information on these sites are available in the diaries of the members of the expedition and a summary will be prepared for publication.

In a few instances lectotype designations were necessary. When a species is based on an unspecified number of individuals without designation of a 'type' and there is now only one original specimen known, this is designated as the lectotype in accordance with the widely accepted interpretation of the *International Code of Zoological Nomenclature*. The question whether such a unique 'type' should be regarded as a holotype or lectotype has been discussed recently by Vane-Wright (1975 : 26-28) whose conclusions seem generally acceptable. If the only existing original specimen or one particular specimen out of a series of syntypes was clearly designated as 'the type' or 'holotype' by a subsequent author, this is accepted as a valid lectotype designation.

Walsingham usually based his new species on a 'type ♂', 'type ♀' and 'paratypes'. Mostly he lists the ♂ in the first place, but sometimes the ♀. Although this seems to indicate that he considered them as holotype, allotype and paratypes, they are all syntypes under the present *Code* and thus eligible for consideration as the lectotype. For the sake of consistency and in accordance with Walsingham's intention it seems, however, advisable to select as the lectotype the specimen which Walsingham lists in first place, unless there are good reasons for doing otherwise.

I have examined the holo- or lectotypes of all nominal species included in the present paper with the exception of *cimelion* Amsel, of which only paratypes were available, and *siewersiellus* Christoph, type-material of which could not be traced.

The literature was considered as completely as possible and over 100 papers dealing with *Ornativalva* species are recorded. All papers examined are listed in the Bibliography (pp. 143-147). A complete bibliography for each species is recorded in my card index from which detailed information will be made available on request. Bibliographic references in the systematic part of this paper are confined to publications from which unchecked information was extracted for the present study or which contain taxonomic changes, biological information and important illustrations. Misidentifications which have been corrected by re-examination of the material on which they were based are also recorded. Excluded are, in particular, check-lists and faunistic papers unless they fall into one of the above categories.

In addition to the 43 species recognized as valid in this paper, 6 doubtful species are also included. In some instances inadequate material, such as poorly preserved specimens, groups in which the sexes are doubtfully associated or in which only one sex is represented, could not be placed with certainty. These doubtful species are excluded from the keys and the check-list; however, they are discussed in the appropriate places in the systematic part as '*Ornativalva* species 1-6' and their genitalia are illustrated.

HEAD PREPARATIONS

The modified structures on the head of various *Ornativulva* species I studied and photographed with a 'Stereoscan' scanning electron microscope (Pls 5-12). The head of the moth was carefully cleared of scales by brushing with a fine snipe feather. The antennae, proboscis and labial palpi were removed and preserved in a capsule on the pin under the specimen. The denuded head was separated from the moth, mounted on a metal stub in a position that permitted examination and photography of all important aspects and coated with gold. Photographs were taken to show the dorsal, lateral and frontal view of the head. After examination the head was glued back on the specimen with a water-soluble glue. In this way the head can be studied on the moth under a binocular microscope. If required for further 'Stereoscan' examination, it can be removed again without damage to the specimen by dissolving the glue with a small drop of water.

ABBREVIATIONS OF MUSEUMS AND INSTITUTIONS

BMNH	British Museum (Natural History), London, U.K.
IE	Istituto di Entomologia, Bolzano, Italy.
LN	Landessammlungen für Naturkunde, Karlsruhe, West Germany.
MINGA	Muzeul de Istorie Naturală 'Grigore Antipa', Bucharest, Rumania.
MNHN	Muséum national d'Histoire naturelle, Paris, France.
MNHU	Museum für Naturkunde der Humboldt-Universität, Berlin, East Germany.
NM	Národní Museum, Prague, Czechoslovakia.
NM	Naturhistorisches Museum, Vienna, Austria.
RSM	Royal Scottish Museum, Edinburgh, U.K.
SMN	Staatliches Museum für Naturkunde, Stuttgart, West Germany.
TAU	Department of Zoology, Tel-Aviv University, Tel-Aviv, Israel.
TM	Transvaal Museum, Pretoria, South Africa.
TM	Természettudományi Múzeum, Budapest, Hungary.
ZSBS	Zoologische Sammlung des Bayerischen Staates, Munich, West Germany.

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The colour plate was produced by Mr B. Hargreaves, Orpington, Kent. The photographs of moths and genitalia preparations were produced by the Photographic

Unit of the BMNH. During the study of head structures I was assisted and advised by members of the Electron Microscope Unit of the BMNH.

ORNATIVALVA Gozmány, 1955

Ornivalva Gozmány, 1955, *Annls hist.-nat. Mus. natn. hung.*, S.N. 6 : 308, 309 [keys], 310.

Type-species: *Gelechia plutelliformis* Staudinger, 1859, by original designation and monotypy.

Ornivalva Gozmány; Gozmány, 1958 : 194, 196 [keys], 233.

Ornivalva Gozmány; Sattler, 1960 : 16 [keys], 59.

Pelostola Janse, 1960, *Moths S. Afr.* 6 : 188. Type-species: *Pelostola kalahariensis* Janse, 1960, by original designation and monotypy. [Synonymized by Sattler, 1967 : 34.]

Ornivalva Gozmány; Sattler, 1967 : 34.

Ornivalva Gozmány; Sattler, 1973 : 231.

Pelostola Janse; Sattler, 1973 : 236. [As synonym of *Ornivalva*.]

Head (Pls 5–12) with or without frontal modifications or processes. Ocellus present. Mandible present as small lobe. Proboscis well developed, squamose at base, apical portion with taste papillae. Maxillary palpus with four short segments. Labial palpus recurved, first segment much shorter than second; second segment with moderate brush of scales below; third segment slender, as long as or slightly longer than second (Sattler, 1967, pl. 1, fig. 3). Antenna without pecten on scape. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2); in *cerostomatella*-group with broad, ovoid scales (Text-fig. 1). In fore wing veins R_4 and R_5 on long common stalk, distance R_1-R_2 about twice distance R_2-R_3 . In hind wing vein M_1 free from cell near RR , from one point with RR or from short common stalk with RR . Frenulum of ♀ with three long setae, in some species of *cerostomatella*-group with only two setae. Humeral field on ventral surface of fore wing densely scaled, without microtrichia (Text-fig. 3). Fore wing 4.0–10.0 mm, often with characteristic pattern. Costal two-thirds of wing dark, dorsal third light between fold and dorsal margin. Light and dark zones sharply separated at fold, border line characteristically W-shaped. Light area sometimes with short dark streak on dorsal margin at base of wing. Fore wing usually smooth, rarely with groups of raised scales. In fresh specimens fore wing sometimes suffused with pink which fades under prolonged influence of daylight.

GENITALIA ♂ (Pls 13–20). Eighth tergite and sternite laterally fused, not separated into free flaps. Genitalia withdrawn inside eighth segment. One pair of coremata present at base of genitalia. Uncus poorly developed or reduced; developed and deeply divided in *cerostomatella*-group. Gnathos absent. Valva divided into two to five branches. Costa long, slender, clavate, always present, sometimes with basal process (termed 'harpe' in this paper). Valva (s. str.) always longer than costa and sacculus, usually with short apical spine. Sacculus fused with valva or clearly separated. In *ornatella*-group additional process arising in angle between valva and sacculus (Text-figs 13, 14). Anellus usually pair of weakly sclerotized lobes, densely set with setae. In some species of *cerostomatella*-group anellus lobes of characteristic shape. Aedeagus with bulbous base, slightly or strongly bent, apex often sharply pointed. Anterior part of bulbus ejaculatorius sometimes with sclerotization (Pl. 17, fig. 95).

GENITALIA ♀ (Pls 21–27). Lobus analis rectangular, wider than long, densely set with setae; row of setae with curved tips along posterior margin, in *cerostomatella*-group setae straight. Apophysis posterior short, about as long as eighth segment (including apophysis anterior). Posterior margin of eighth tergite with irregular row of setae; in *cerostomatella*-group without setae but with narrow band of scales instead (in genitalia preparations only scale bases remain) (Pl. 27, fig. 122). Apophysis anterior short, approximately one-third to one-half length of apophysis posterior, sometimes much reduced, rod-like, sometimes dilated distally. Sclerotized antrum present in some species. Ductus bursae of varying length, in some species very long, coiled. Ductus seminalis arises near ostium bursae; short section of ductus seminalis dilated near ductus bursae, inner wall of dilated section sometimes with minute spines. Inner surface

of corpus bursae and sometimes anterior section of ductus bursae evenly set with minute spines. In some species (*pharaonis*, *serratisignella*, *caecigena*) spines in corpus bursae concentrated in narrow band. Corpus bursae always with signum. Typical signum with pair of strong spines, teeth or transverse ridges on irregularly shaped sclerotized basal plate; sometimes signum divided into two or signum of completely different shape.

REMARKS. On the denuded head of most *Ornativulva* species the transfrontal sulcus is externally visible as a narrow band which is free of scale bases and runs in a gentle arc between the antennal pits. (In this paper the transfrontal sulcus is taken as the dividing line between vertex and frons.) Below the transfrontal sulcus the scale bases are evenly distributed over most of the frontal region but more densely concentrated along the margin of the eyes. A narrow band between the tentorial pits is completely free of scale bases. Above the transfrontal sulcus the scale bases are unevenly distributed, with the densest concentration laterally and along the posterior margin of the head. The centre of the vertex is an area of low density and in some species (*pulchella*, *frontella*, *cerostomatella* and others) can be completely free of scale bases. The density of scale bases is not a direct indication of the density of the scale cover above a given point of the head surface. The areas which are free or almost free of scale bases are usually covered by scales arising on neighbouring areas. The bare patches on the vertex are covered by scales which arise laterally and point towards the centre line of the head.

In some species of the *erubescens*-group and all but one of the *cerostomatella*-group, modifications of the frontal region occur. The scale bases below the transfrontal sulcus and immediately above it can be reduced in numbers and raised to form small knobs or teeth. They can be concentrated immediately below the transfrontal sulcus and form a more or less pronounced process. The scale bases immediately above the transfrontal sulcus can form a regular or irregular arc. The most extreme development of frontal processes is found in some species of the *cerostomatella*-group (*cornifrons* and some forms of *mixolitha*) (Pls 8-12).

The frontal modifications are usually hidden under the scale cover of the head and can be easily overlooked unless the head is denuded for examination. Even in species with extreme processes only the tip may be visible among the scales.

Nothing appears to be known about the function of such modifications of the frontal region. In some instances fine particles of sand were found among the raised scale bases. This suggests that some species pupate in the ground and that the moth has to bore through a layer of soil after emerging from the pupa. A strengthening of the frons would seem advantageous for such purposes; however, numerous species of moths manage perfectly well under identical conditions without such modifications.

Head processes have developed independently in several families of Lepidoptera, for example, Cosmopterigidae, Symmocidae, Pyralidae (Crambinae, Phycitinae), Geometridae, Thyrididae, Noctuidae and Thaumetopoeidae. In the Gelechiidae modifications of the frons occur independently in a number of genera, for example, *Lita* Treitschke, *Rhynchopacha* Staudinger, *Cerofrontia* Janse, *Scrobipalpa* Janse, *Ilseopsis* Povolný and others.

Species with frontal processes are found in different parts of the world; however,

in the Gelechiidae there is a notable concentration in arid areas of the Palaearctic and Nearctic regions. In the Palaearctic region Gelechiidae with frontal modifications occur from Morocco through North Africa, the Near and Middle East to western India and Central Asia, with a particular concentration in Mongolia.

Frontal processes are found in both sexes and no sexual dimorphism was observed in this character.

In *Ornativalva mixolitha* considerable variation of the frontal structures is found. The majority of specimens have no definite process but merely enlarged scale bases which are evenly distributed, whereas a distinct process is developed in specimens from Turkey and Mongolia. In southern Iran specimens with and without process and intermediate stages were found.

In most Gelechiidae the metascutum is bare except for a paired group of modified scales near its posterior margin. The long, narrow, hair-like scales point in a postero-medial direction. The scutellum is covered with normal body-covering scales. In the species of the *cerostomatella*-group the scales on metascutum and scutellum are short, broad, ovoid and arranged in a shingled manner (Text-figs 1, 2). The function of this structure, which is equally developed in both sexes, and the significance of its modification in the *cerostomatella*-group of the genus *Ornativalva* is unknown. Such modification is also found elsewhere in the Gelechiidae, for example, in *Rhynchopacha gussakovskii* (Gerasimov), which differs in that character from all other *Rhynchopacha* species. Like the species of the *cerostomatella*-group *R. gussakovskii* has also a frontal process; however, there is no correlation between frontal process and scale structure of the metascutum and there are many species of Gelechiidae with frontal process but hair-like scales on the metascutum.

Differences between species are found in the wing shape and some species of the *cerostomatella*-group (*cerostomatella*, *cornifrons*) differ more strongly from the majority of the *Ornativalva* species (Text-figs 3-12). No sexual differences in the wing shape of *Ornativalva* species were observed.

For examination of the ♀ frenulum it is recommended to look at both pairs of wings as there are specimens which have lost a seta or acquired an additional one, usually on one side only.

The humeral field, a basal area on the ventral surface of the fore wing, between costa, subcosta and humeral cross-vein (Text-fig. 3) bears in many species of Lepidoptera a group of microtrichia. The presence or absence of the microtrichia was used by some authors to separate Gelechiidae and Scythrididae; however, this character is so variable in the Gelechiidae that it has no significance at the family level. Several species of *Ornativalva* were examined but no microtrichia were found.

The ductus bursae can reach considerable length in some species and is then coiled inside the abdomen. When uncoiled and fully extended in a preparation, it can measure up to three times the length of the extended abdomen. There appears to be some correlation between the length of the ductus ejaculatorius of the ♂ and the ductus bursae of the ♀. *O. rufipuncta* and *longiductella* with an exceptionally long ductus bursae have also an extremely long ductus ejaculatorius. This is not surprising when we consider that the spermatophore may be partially formed in the ductus ejaculatorius during copulation. The spermatophore is probably

globular with a long coiled stalk that reaches the posterior part of the ductus bursae where the ductus seminalis branches off. Remnants of the spermatophore were found during preparation in the ductus bursae of *rufipuncta*.

BIOLOGY. The genus *Ornativulva* appears to be closely associated with the plant genus *Tamarix* (Tamaricaceae). The larvae of twelve *Ornativulva* species were reared on *Tamarix* species. Many more species were collected as adults flying among *Tamarix*, indicating that their larvae can likewise be expected to feed on that plant genus. The larva of *O. heluanensis* was reared on *Tamarix* and *Frankenia* (Frankeniaceae). Frankeniaceae are considered to be closely related to Tamaricaceae. One specimen of *O. plutelliformis* is labelled '*Rhus oxyacanthae*', but it is unlikely that *Rhus* is the host-plant of the larva of any *Ornativulva* species. Relatively few *Ornativulva* species were collected in the larval stage and then only in a small number of localities. There is no indication at this stage that *Ornativulva* species are host-specific within the genus *Tamarix*. The comparison of the distribution patterns of *Tamarix* species and *Ornativulva* species indicates that widely distributed species must have different host-plants in different parts of their range. This is confirmed by the fact that several different species of *Tamarix* were recorded for *O. plutelliformis*. The species of *Tamarix* are not always easy to identify. A number of species were recorded as host-plants of *Ornativulva* species; however, some are clearly misidentifications whereas others remain doubtful. The host-plants are discussed under each species in the taxonomic section. The nomenclature of the *Tamarix* species in this paper follows Baum (1966).

EGG. Unknown. It is possibly deposited singly on the terminal shoots of *Tamarix*, where the larva is known to feed.

LARVA. The chaetotaxy of the larvae has never been studied. Descriptions of colour and pattern exist for several species. Two colour forms (green and pink) of the larva of *plutelliformis* were illustrated by Millière (1861, (liv.4) pl. 1, figs 1, 2). Most of the descriptions are not comparative and thus of little value. Misidentifications are frequent and authors were sometimes dealing with a mixed series of larvae.

According to the literature the larva lives in a silken tube or free on the terminal shoots, leaves or flowers of *Tamarix* species. *O. heluanensis* was also recorded as mining the succulent leaves of *Frankenia*.

PUPA. Superficial descriptions exist for a few species. The pupa of *plutelliformis* was illustrated in colour by Millière (1861, (liv. 4) pl. 1, fig. 3); however, the figure is too small and shows little. The existing descriptions are unsuitable for comparison and the identification of the species is often doubtful.

According to the literature *Ornativulva* species pupate on or in the ground in a cocoon that is covered with small particles of soil. In areas where hibernation is required this takes place in the pupal stage.

ADULT. Little is known about the habits of the moths. Mann observed adults of *tamariciella* flying and mating before and after sunset (Zeller, 1850 : 153). The *Ornativulva* species are readily attracted to light and most species have been collected that way. No observations exist on the number of generations per year, but all indications are that *Ornativulva* species breed continuously where climatic conditions

are right. The most common and widely distributed *heluanensis* and *plutelliformis* were collected as adults in every month of the year. Clear-cut generations probably exist in areas with distinct seasons.

DISTRIBUTION. The distribution of the genus *Ornativálva* coincides almost completely with that of the plant genus *Tamarix*. *Ornativálva* species are known from the Cape Verde Islands, Canary Islands and Madeira through southern Europe and North Africa to India and Mongolia. No species are known from China, where *Tamarix* also occurs. In the south some species are known from the Sudan and Socotra. An isolated species occurs in South Africa.

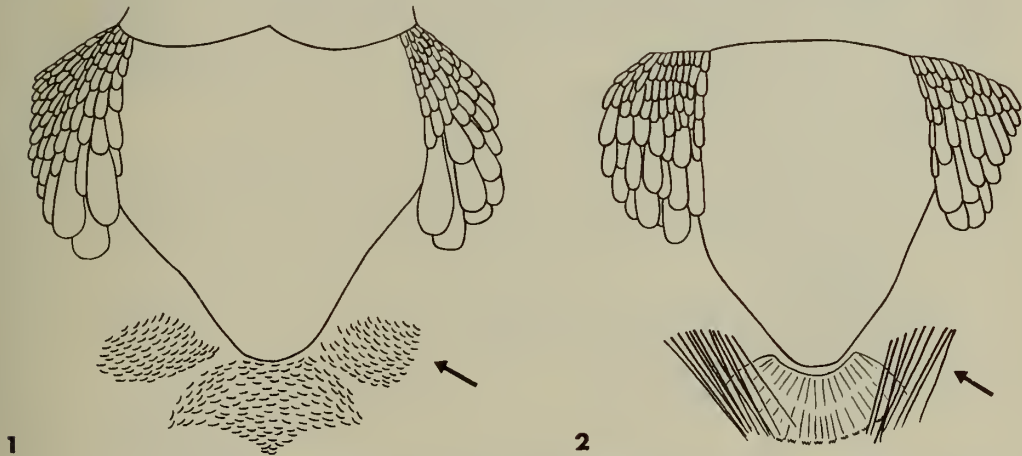
THE SYSTEMATIC POSITION OF *ORNATIVALVA*

Gozmány (1955 : 310; 1958 : 233), in his papers on the Hungarian Gelechiidae, placed the genus *Ornativálva* between *Friseria* Busck and *Chionodes* Hübner; however, its relationship to other genera was not discussed. The genus *Friseria* is American in distribution and not yet recorded from the Palaearctic region; the only Hungarian species included by Gozmány belongs to *Rhynchopacha* Staudinger. There is no evidence that *Ornativálva* is closely related to either *Chionodes* or *Rhynchopacha*.

Janse (1960 : 188), who described the genus as *Pelostola* in his work on the South African Gelechiidae, placed it 'near to *Scrobipalpa* and *Melitoxoides*'. Neither genus is morphologically similar to *Ornativálva*.

The placement of *Ornativálva* between *Altenia* Sattler and *Gladiovalva* Sattler (Sattler, 1960 : 59) was arbitrary and not based on affinities.

The higher classification of the Gelechiidae is still poorly understood. A number of subfamilies have been separated, but most of them have never been defined properly and the subfamily Gelechiinae remains a heterogeneous assemblage of all the genera which could not be assigned with certainty to any other subfamily.



FIGS 1, 2. Thorax of *Ornativálva* species. 1, *cerostomatella*-group. 2, *heluanensis*-group - *plutelliformis*-group.

The Gelechiinae are at present subdivided into three tribes, Teleiodini, Gnori-moschemini and Gelechiini, the last comprising a mixture of genera which could not be assigned with certainty to one of the other two tribes. As the tribes are defined at present, *Ornativulva* can only be included in the Gelechiini. *Ornativulva* does not appear to have close morphological affinities to any other genus and in particular is not related to the other *Tamarix*-feeders in the Gelechiidae. For practical purposes *Ornativulva* should remain next to *Chionodes* until a more appropriate place can be suggested.

KEY TO THE SPECIES OF *ORNATIVULVA*: MALES

(Note. The ♂ of *undella* is unknown.)

1	South African species	<i>kalahariensis</i> (p. 127)
—	Palearctic species	2
2	(1) Metascutum with short broad scales (Text-fig. 1); uncus divided	3
—	Metascutum with long narrow scales (Text-fig. 2); uncus not divided	9
3	(2) Fore wing with dark longitudinal band; costa and dorsal margin light	4
—	Fore wing without clearly defined longitudinal band; costa usually dark, dorsal margin lighter	6
4	(3) Frons with strong process (Pl. 12, figs 78–80); ground colour of fore wing white	<i>cornifrons</i> (p. 138)
—	Frons weakly or strongly prominent but without process; ground colour of fore wing ochreous	5
5	(4) Distal half of valva much narrower than basal half; frons hardly prominent (Pl. 9, figs 60–62)	<i>cerostomatella</i> (p. 139)
—	Distal half of valva hardly narrower than basal half; frons strongly prominent (Pl. 10, figs 63–65)	<i>mongolica</i> (p. 140)
6	(3) Distal portion of valva strongly curved dorsad	7
—	Distal portion of valva straight	8
7	(6) Frons with short cylindrical process (Pl. 11, figs 69–74)	<i>afghana</i> (p. 141)
—	Frons prominent, without cylindrical process (Pl. 10, figs 66–68)	<i>curvella</i> (p. 142)
8	(6) Base of anellus bulged	<i>angulatella</i> (p. 137)
—	Base of anellus not bulged	<i>mixolitha</i> (p. 135)
9	(2) Sacculus developed, clearly separated from valva	10
—	No separate sacculus developed	38
10	(9) Frons with process and enlarged scale bases (Pls 6, 7, figs 39–50)	11
—	Frons not modified	14
11	(10) Fore wing with basal streak (Pl. 1, fig. 4; Pl. 2, fig. 20)	<i>frontella</i> (p. 114)
—	Fore wing without basal streak	12
12	(11) Harpe clavate	<i>lilyella</i> (p. 108)
—	Harpe digitate	13
13	(12) Sacculus broadest near base (Pl. 14, fig. 85)	<i>aspera</i> (p. 109)
—	Sacculus broadest distally (Pl. 14, fig. 86)	<i>pulchella</i> (p. 110)
14	(10) Fore wing with basal streak	15
—	Fore wing without basal streak	22
15	(14) Conspicuous process between valva and sacculus (Pl. 16, fig. 92; Text-figs 13, 14)	<i>ornatella</i> (p. 116)
—	No process between valva and sacculus	16
16	(15) Distal half of sacculus separated from valva	17
—	Sacculus fused with valva for most of its length	20

17 (16)	Sacculus somewhat dilated in distal half	18
-	Sacculus not dilated in distal half	19
18 (17)	Sacculus broadest near apex (Pl. 19, fig. 99)	<i>basistriga</i> (p. 130)
-	Sacculus broadest at three-quarters, distal portion narrow (Pl. 18, fig. 98)	<i>singula</i> (p. 129)
19 (17)	Harpe long, digitate	<i>sieversi</i> (p. 134)
-	Harpe short, rounded	<i>heligmatodes</i> (p. 124)
20 (16)	Apex of aedeagus sharply bent	<i>erubescens</i> (p. 108)
-	Apex of aedeagus gently curved	21
21 (20)	Harpe clavate	<i>arabica</i> (p. 114)
-	Harpe globular (Pl. 14, fig. 84)	<i>levifrons</i> (p. 107)
22 (14)	Harpe absent	<i>ignota</i> (p. 115)
-	Harpe present	23
23 (22)	Harpe angulate, with sharp point	<i>pharaonis</i> (p. 120)
-	Harpe rounded or digitate	24
24 (23)	Aedeagus with rounded or truncate apex	25
-	Aedeagus pointed	27
25 (24)	Costa clavate	26
-	Costa not clavate (Pl. 18, fig. 96); fore wing with raised scales (Pl. 1, fig. 7)	<i>caecigena</i> (p. 123)
26 (25)	Valva strongly bent in middle (Pl. 17, fig. 93)	<i>pllicella</i> (p. 118)
-	Valva straight, not bent in middle	<i>macrosignella</i> (p. 123)
27 (24)	Harpe digitate, at least half length of costa	28
-	Harpe rounded, short	33
28 (27)	Valva strongly bent in middle (Pl. 15, fig. 87)	<i>ochraceofusca</i> (p. 111)
-	Valva not bent in middle	29
29 (28)	Sacculus about twice as long as wide	<i>sesostrella</i> (p. 115)
-	Sacculus much longer than wide	30
30 (29)	Distal half of sacculus narrower than basal half	31
-	Distal half of sacculus not narrower than basal half	32
31 (30)	Aedeagus curved, S -shaped	<i>antipyramis</i> (p. 128)
-	Aedeagus curved but not S -shaped	<i>triangulella</i> (p. 128)
32 (30)	Bulbous base of aedeagus as long as narrow apical portion	<i>plutelliformis</i> (p. 131)
-	Bulbous base of aedeagus shorter than narrow apical portion	<i>grisea</i> (p. 133)
33 (27)	Fore wing with small groups of raised scales	<i>indica</i> (p. 120)
-	Fore wing smooth, without raised scales	34
34 (33)	Posterior margin of anellus with circular emargination (Pl. 17, fig. 94)	<i>misma</i> (p. 121)
-	Posterior margin of anellus without emargination	35
35 (34)	Sacculus broad at base (Pl. 17, fig. 95)	<i>serratisignella</i> (p. 122)
-	Sacculus narrow	36
36 (35)	Sacculus short, hardly extending beyond harpe	<i>pseudotamariciella</i> (p. 126)
-	Sacculus long, extending well beyond harpe	37
37 (36)	Narrow distal portion of aedeagus clearly separated from bulbous base	<i>heligmatodes</i> (p. 124)
-	Narrow distal portion of aedeagus not clearly separated from bulbous base	<i>tamariciella</i> (p. 125)
38 (9)	Uncus pointed (Pl. 20, fig. 104)	<i>acutivalva</i> (p. 142)
-	Uncus more or less truncate	39
39 (38)	Harpe a short process	40
-	Harpe absent	42
40 (39)	Ductus ejaculatorius about half as long as abdomen	<i>heluanensis</i> (p. 101)
-	Ductus ejaculatorius about as long as abdomen	41
41 (40)	Apical portion of aedeagus strongly curved (Pl. 13, fig. 83)	<i>rufipuncta</i> (p. 104)

19 (18)	No sclerotized antrum (Pl. 26, fig. 120)	<i>basistriga</i> (p. 130)	20
-	Antrum short, tubular		20
20 (19)	Fore wing between costa and fold uniformly dark brown	<i>arabica</i> (p. 114)	
-	Fore wing between costa and fold with light zone (Pl. 1, fig. 1; Pl. 2, fig. 17)	<i>levifrons</i> (p. 107)	
21 (12)	Signum with pair of strong spines; spines more or less circular in cross-section		22
-	Signum of different shape or spines not circular in cross-section		31
22 (21)	Signum spines longer than signum is wide (Pl. 22, fig. 110)	<i>ochraceofusca</i> (p. 111)	
-	Signum spines as long as signum is wide or shorter		23
23 (22)	Ductus bursae much longer than abdomen		24
-	Ductus bursae not longer than abdomen		26
24 (23)	Apophysis anterior rod-like; antrum as long as or longer than apophysis anterior (Pl. 21, fig. 106)	<i>rufipuncta</i> (p. 104)	
-	Apophysis anterior not rod-like; antrum absent or shorter than apophysis anterior		25
25 (24)	Apophysis anterior reduced; antrum absent	<i>roseosuffusella</i> (p. 105)	
-	Apophysis anterior broad; antrum shorter than apophysis anterior	<i>longiductella</i> (p. 104)	
26 (23)	Antrum short, tubular		27
-	Antrum absent, when present not tubular		29
27 (26)	Base plates of signum separate or connected by narrow sclerotized bridge		28
-	Base plate of signum broad, hardly constricted medially	<i>triangulella</i> (p. 128)	
28 (27)	Antrum more than half length of apophysis anterior (Pl. 23, fig. 112)	<i>ignota</i> (p. 115)	
-	Antrum at most half length of apophysis anterior	<i>sesostrella</i> (p. 115)	
29 (26)	Apophysis anterior reduced	<i>zonella</i> (p. 105)	
-	Apophysis anterior clearly developed		30
30 (29)	Antrum absent (Pl. 21, fig. 105)	<i>heluanensis</i> (p. 101)	
-	Short antrum present	<i>plutelliformis</i> (p. 131)	
31 (21)	Single signum without pair of spines or processes		32
-	Two separate signa or signum with paired processes		33
32 (31)	Signum a narrow transverse band without spines	<i>tamariciella</i> (p. 125)	
-	Signum longitudinal, large, with small spines	<i>macrosignella</i> (p. 123)	
33 (31)	Posterior third of ductus bursae straight, not coiled, weakly sclerotized		34
-	Entire ductus bursae coiled, membranous		35
34 (33)	Apophysis anterior almost as long as apophysis posterior (Pl. 25, fig. 117)	<i>misma</i> (p. 121)	
-	Apophysis anterior much shorter than apophysis posterior	<i>pharaonis</i> (p. 120)	
35 (33)	Cervix bursae with one or two sclerotized folds near opening of corpus bursae		36
-	Cervix bursae or ductus bursae without sclerotizations near opening of corpus bursae		37
36 (35)	Antrum longer than apophysis anterior; cervix bursae with one sclerotized fold (Pl. 24, fig. 115)	<i>undella</i> (p. 118)	
-	Antrum absent; cervix bursae with two sclerotized folds (Pl. 24, fig. 114)	<i>pllicella</i> (p. 118)	
37 (35)	Signum a pair of irregular base plates with transverse folds or ridges		38
-	Signum of different shape		39
38 (37)	Antrum medially at posterior margin with pair of longitudinal folds	<i>antipyramis</i> (p. 128)	
-	Antrum not developed	<i>grisea</i> (p. 133)	
39 (37)	Signum a narrow sclerotized band		40
-	Signum not band-like		41
40 (39)	Signum with pair of folds	<i>pseudotamariciella</i> (p. 126)	

- Signum with pair of broad terminal teeth *indica* (p. 120)
 41 (39) Signum with pair of strong spines; edges of spines smooth *heligmatodes* (p. 124)
 - Signum with pair of processes with serrated edges 42
 42 (41) Processes of signum serrated along one edge *caecigena* (p. 123)
 - Processes of signum serrated along both edges *serratisignella* (p. 122)

CHECK-LIST OF THE SPECIES OF *ORNATIVALVA**ORNATIVALVA* Gozmány, 1955*PELOSTOLA* Janse, 1960*heluanensis*-group

- heluanensis* (Debski, 1913)
frankenivorella Chrétien, 1917
oasicolella Turati, 1924, **syn. n.**
siculella Mariani, 1937, **syn. n.**
longiductella Sattler, 1967
rufipuncta **sp. n.**
roseosuffusella Sattler, 1967
zonella (Chrétien, 1917)
cimelion Amsel, 1935, **syn. n.**
iranella Sattler, 1967, **syn. n.**

erubescens-group

- levifrons* **sp. n.**
erubescens (Walsingham, 1904)
lilyella (Lucas, 1944)
aspera **sp. n.**
pulchella **sp. n.**
ochraceofusca Sattler, 1967
frontella **sp. n.**
arabica Sattler, 1967
sesostrella (Rebel, 1912)
ignota Sattler, 1967

ornatella-group

- ornatella* Sattler, 1967

plicella-group

- plicella* **sp. n.**
undella **sp. n.**

tamariciella-group

- indica* Sattler, 1967
pharaonis Sattler, 1967
misma **sp. n.**
serratisignella Sattler, 1967
caecigena (Meyrick, 1918)
macrosignella Sattler, 1967
heligmatodes (Walsingham, 1904)
tamariciella (Zeller, 1850)
pseudotamariciella Sattler, 1967
kalahariensis (Janse, 1960)

plutelliformis-group

- triangulella* Sattler, 1967
antipyramis (Meyrick, 1925)

- singula* Sattler, 1967
basistriga sp. n.
plutelliformis (Staudinger, 1859)
olbiaella Millière, 1861
siewersiellus Christoph, 1867
sinuatella Walsingham, 1904
grisea Sattler, 1967
sieversi (Staudinger, 1871)
cerostomatella-group
mixolitha mixolitha (Meyrick, 1918)
mixolitha bipunctella Sattler, 1967
angulatella (Chrétien, 1915)
nigrosbvittatella Lucas, 1933
cornifrons sp. n.
cerostomatella (Walsingham, 1904)
tripartitella Mabilie, 1907
cerostomella Meyrick, 1925
biclavata Meyrick, 1934
mongolica Sattler, 1967
afghana Sattler, 1967
curvella sp. n.
acutivalva sp. n.

THE *HELUANENSIS*-GROUP

(Text-fig. 3)

Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2). Fore wing without basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia uncus reduced; costa and valva present, harpe short or absent; sacculus not separated from valva. Anellus membranous. Aedeagus of some species with very long ductus ejaculatorius. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae. Apophysis anterior short or reduced, in *rufipuncta* longer. Sclerotized antrum generally absent, in *longiductella* short, in *rufipuncta* well developed. Ductus bursae extremely long in some species. Signum not divided, with pair of strong spines.

BIOLOGY. *O. heluanensis* and *zonella* have been bred on *Tamarix* species, *heluanensis* also on *Frankenia*.

Ornativalva heluanensis (Debski, 1913)

(Pl. 13, fig. 81; Pl. 21, fig. 105; Text-fig. 3)

Teleia heluanensis Debski, 1913, in Andres, *Bull. Soc. ent. Egypte* 3 : 111. Lectotype ♂, EGYPT: Helwân, larva on *Tamarix*, 6. iv., moth emerged 4.v.1910 (*Debski*) (genitalia slide no. 3063; NM, Vienna), designated by Sattler (1967 : 88) [examined].

[*Teleia tamariciella* (Zeller); Rebel, 1912 : 90 (partim). Misidentification.]

[*Teleia tamariciella* (Zeller); Chrétien, 1917 : 473. Erroneously cited as *tamariciella* Mann. Misidentification.]

Teleia frankeniivorella Chrétien, 1917, *Annls Soc. ent. Fr.* 85 : 474. Lectotype ♀, ALGERIA: Biskra, larva on *Frankenia*, 11.-12.xi.1911, moth emerged 27.iii.1912 (*Chrétien*) (genitalia

slide no. 387a, Sattler; MNHN, Paris), designated by Sattler (1967 : 87) [examined].
[Synonymized by Sattler, 1967 : 39.]

Teleja [sic] *oasicolella* Turati, 1924, *Atti Soc. ital. Sci. nat.* **63** : 161, pl. 6, fig. 4 [poor colour photograph]. LECTOTYPE ♀, LIBYA: Cyrenaica, Bengasi, Saluk, 24. iv. (*Krüger*) (genitalia slide no. 685, Sattler; coll. Turati, IE, Bolzano), here designated [examined]. **Syn. n.**

Gelechia frankeniivorella (Chrétien) Meyrick, 1925a : 78.

Gelechia heluanensis (Debski) Meyrick, 1925a : 84.

[*Teleia tamaricalis* (Zeller); Amsel, 1933 : 125 (partim). Incorrect subsequent spelling of *tamariciella* Zeller. Misidentification.]

[*Teleia tamariciella* (Zeller); Amsel, 1935b : 263 (partim). Misidentification.]

Telephusa oasicolella (Turati) Gaede, 1937 : 131.

Gelechia frankeniivorella (Chrétien); Gaede, 1937 : 173.

Gelechia heluanensis (Debski); Gaede, 1937 : 177.

Lita siculella Mariani, 1937, *G. Sci. nat. econ. Palermo* **39**(3) : 9, pl. 1, fig. 1. LECTOTYPE ♂, ITALY: Sicily, Prov. Palermo, Casteldaccia, 23.ix.1927 (*Mariani*) (genitalia slide no. 631, Povolný; MNHU, Berlin), here designated [examined]. **Syn. n.**

[*Teleia tamariciella* (Zeller); Amsel, 1955a : 28. Misidentification.]

[*Teleia tamariciella* (Zeller); Amsel, 1959 : 32. Misidentification.]

[*Ornativolva trifasciella* (Rebel) Sattler, 1960 : 59. Misidentification.]

Ornativolva frankeniivorella (Chrétien) Sattler, 1964 : 577.

Ornativolva frankeniivorella (Chrétien); Amsel, 1966 : 128.

Ornativolva heluanensis (Debski) Sattler, 1967 : 38, 88, pl. 1, fig. 5, pl. 3, figs 15, 16, pl. 9, fig. 45.

Ornativolva heluanensis (Debski); Amsel, 1968 : 17.

GENITALIA ♂. Pl. 13, fig. 81.

GENITALIA ♀. Pl. 21, fig. 105.

REMARKS. The observations of Debski (1913 : 110–112) on the larvae are incorrect or unreliable. He observed two different types of larvae, both feeding on *Tamarix tetragyna* Ehrenberg and *T. nilotica* (Ehrenberg) Bunge. The larva described on the specimen labels as 'larva libera bicornuta' he attributed to *tamariciella* (Debski, 1913 : 110); however, from his detailed description it is clear that this was not a gelechiid larva but probably that of an *Agdistis* species (Pterophoridae) (Chrétien, 1917 : 473). The second larval type, described as 'larva tubicola', Debski attributed to *heluanensis*. I have examined five of Debski's specimens. One 'ex larva libera bicornuta' and two 'ex larva tubicola' are *heluanensis*, while one 'ex larva libera bicornuta' and one 'ex larva tubicola' are *macrosignella*.

Chrétien (1917 : 473, 474) separated two species, *tamariciella* and *frankeniivorella*, based on different host-plants (*Tamarix* species and *Frankenia pallida* Boissier) as well as on certain differences in the colour of the larvae and the wing markings of the moths. I have examined the lectotype ♀ of *frankeniivorella* and a ♂ which Chrétien reared on *Tamarix*; both represent the same species. While the differences in the moths can be explained by the considerable variability of wing markings and colour in *heluanensis*, not enough is known about the larvae to account for their colour differences; however, considerable variation in colour has been observed in the larvae of *O. plutelliformis*.

Teleja [sic] *oasicolella* Turati was described from an unspecified number of specimens. The Turati collection contained one ♂ and one ♀. The ♀ bears the label '*oasicolella* H[olo] Type.', probably in Turati's handwriting. Although the colour photograph in the original publication is of poor quality, it seems certain that

it illustrates this particular specimen, which is here designated as the lectotype. The ♂ bears (?) Turati's label '*oasicolella* All[o]-Type.' and has now been labelled as paralectotype.

Lita siculella Mariani was described from one specimen in coll. Mariani and one specimen in MNHU, Berlin. I was unable to obtain the specimen from Mariani's collection which is still in the hands of his family; however, the specimen from MNHU, Berlin, was available and is here designated as the lectotype. The specimen bears the label '*Lita siculella* Mariani', in Mariani's handwriting. Mariani stated that the species was collected in August. On the data label of the lectotype the printed 'VIII.' has been altered by hand to '23.IX.' and it seems likely that Mariani had sent this specimen to Berlin without recording the exact date for his publication.

BIOLOGY. Host-plants: *Frankenia pallida* Boissier (moth bred by Chrétien); *Frankenia* species (moth bred by Walsingham); *Tamarix tetragyna* Ehrenberg and *T. nilotica* (Ehrenberg) Bunge (moths bred by Debski); unspecified species of *Tamarix* (moths bred by Chrétien, Dumont, Gerling and Lupo).

As far as can be seen from the literature (Debski, 1913 : 111; Chrétien, 1917 : 473, 474) and information from data labels of specimens, the larva lives in a silken tunnel which is covered with the deciduous terminal shoots of *Tamarix* or other material. The larva feeds on the terminal shoots of *Tamarix* or mines the succulent leaves of *Frankenia* which then turn white. Pupation takes place in a cocoon on the ground.

The number of generations per year is unknown. There may be two clear-cut generations in southern Europe or Central Asia; however, there are indications that *heluanensis* breeds continuously under favourable conditions. In North Africa larvae have been observed by various collectors in April-June, November and December whereas moths have been collected in all months of the year.

DISTRIBUTION. Spain; Italy (Sicily); Malta; Yugoslavia; U.S.S.R. (S. Russia, Turkestan); Turkey; Cape Verde Islands (St. Vincent); Canary Islands (Gran Canaria); Morocco; Algeria; Tunisia; Libya; Egypt; Sudan; Israel; Syria; Saudi Arabia; Iraq; Iran; Afghanistan; Pakistan; Mongolia.

FURTHER MATERIAL EXAMINED.

SPAIN: 2 ♂, 15 ♀, Prov. Almería, (Cabo de Gata) Mazarulleque, 3.viii.1968 (*Sattler & Carter*) (BMNH); 1 ♂, 8 ♀, Prov. Murcia, Alhama de Murcia, 19.-20.ix.1974 (*Glaser*) (coll. Glaser, Vienna; BMNH) [first record for Spain]. MALTA: 1 ♀, Gozo Xlendi, 3.ix.1956 (*de Lucca*) (coll. de Lucca, Malta); 1 ♀, Melleha, 9.ix.1956 (*de Lucca*) (coll. de Lucca, Malta) [first record for Malta]. TURKEY: 1 ♂, Esan river, 50 km E. of Fethiye, 20.viii.1972 (*Gerling*) (TAU, Tel-Aviv); 1 ♂, 50 km W. of Silifke, 17.viii.1972 (*Gerling*) (TAU, Tel-Aviv) [first record for Turkey]. CANARY ISLANDS: 3 ♂, 2 ♀, Gran Canaria, Maspalomas, 26.-27.ii.1967 (*Kasy*) (NM, Vienna; BMNH) [first record for the Canary Islands]. LIBYA: 1 ♂, Cyrenaica, Bengasi, 30.iv.1922 (*Krüger*) (IE, Bolzano) (paralectotype of *T. oasicolella* Turati). ISRAEL: 2 ♂, 4 ♀, Jiftlik Post, 35 km N. of Jericho, larvae in webs on *Tamarix*, 3.vi., moths emerged 4.vii.-15.viii.1971 (*Lupo*) (TAU, Tel-Aviv); 1 ♂, Nahal Ze'elim, 12 km S. of Ein Gedi, larva in web on *Tamarix*, 27.xii.1970, moth emerged 17.i.1971 (*Gerling*) (TAU,

Tel-Aviv); 1 ♂, Ein-Feshcha, 22.ix.1971 (*Kugler*) (TAU, Tel-Aviv); 1 ♂, Nahal David, 26.ix.1971 (*Kugler*) (TAU, Tel-Aviv). AFGHANISTAN: 1 ♂, Ghorband Valley, N. of Kabul, 1900 m, 30.vii.1965 (*Kasy & Vartian*) (NM, Vienna). MONGOLIA: 3 ♂, 3 ♀, Bajanchongor aimak, oasis Echin gol, 90 km NE. of borderpost Caganbulag, 950 m, 27.-29.vi.1967 (*Kaszab*, no. 857) (TM, Budapest); 3 ♂, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (TM, Budapest; BMNH); 1 ♀, South Gobi aimak, 10 km NNE. of Dalanzadgad, 1450 m, 7.vii.1967 (*Kaszab*, no. 898) (TM, Budapest) [first record for Mongolia].

Ornativalka longiductella Sattler, 1967

(Pl. 13, fig. 82)

Ornativalka longiductella Sattler, 1967, *Beitr. naturk. Forsch. Südwdl.* **26**(3) : 40, pl. 3, fig. 17, pl. 9, fig. 46. Holotype ♀, ALGERIA: Hammam-es-Salahin, 15.iv.1964 (*Walsingham*) (genitalia slide no. 6563; BMNH) [examined].

Ornativalka longiductella Sattler, 1964 : 578. Nomen nudum.

GENITALIA ♂. Pl. 13, fig. 82.

GENITALIA ♀. Sattler, 1967, pl. 9, fig. 46.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in February–April, June, July and October.

DISTRIBUTION. Algeria; Tunisia; Sudan; Iraq; Afghanistan; Mongolia.

FURTHER MATERIAL EXAMINED.

MONGOLIA: 5 ♂, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest; BMNH); 1 ♂, Bajanchongor aimak, spring Talyn Bilgech Bulag, 47 km E. of borderpost Caganbulag, 1200 m, 23.vi.1967 (*Kaszab*, no. 840) (TM, Budapest); 3 ♂, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (TM, Budapest; BMNH) [first record for Mongolia].

Ornativalka rufipuncta sp. n.

(Pl. 2, fig. 16; Pl. 13, fig. 83; Pl. 21, fig. 106)

♂, ♀. 5.0–6.0 mm. Head without frontal modifications. Frons pale, whitish grey, scales on vertex mixed with brown. Labial palpus whitish, outer surface of second segment with brown band near base and before apex; third segment with broad brown band around middle, apex brown. Antenna brown with white rings above, white below. Thorax and tegula greyish, apex of tegula whitish. Fore wing greyish with red-brown markings. Two red-brown dots in cell, double dot at end of cell, short streak in fold at base; three red-brown dots on fold, at one-third, two-thirds and end of fold. Narrow red-brown zone along base of fringes. Outer transverse line sharply angulate in middle. Fringes whitish, divided by several grey lines.

GENITALIA ♂ (Pl. 13, fig. 83). Tegumen with deep anterior emargination, sclerotized part narrow. Costa as long as valva. Harpe short. Basal two-thirds of valva broad, distal third much narrower, curved, tapering, without apical spine. Basal third of aedeagus oval, apical two-thirds much narrower, strongly curved.

GENITALIA ♀ (Pl. 21, fig. 106). Apophysis posterior slightly longer than apophysis anterior.

Sclerotized antrum as long as apophysis anterior. Ductus bursae coiled, extended about three times length of abdomen. Corpus bursae small, globular. Signum long, irregular, sclerotized plate with pair of strong spines.

REMARKS. *O. rufipuncta* differs externally from all other *Ornativálva* species by the distinct red-brown fore wing markings. Similarities in the ♀ genitalia, particularly the extremely long ductus bursae, place *rufipuncta* near *longiductella*.

BIOLOGY. Host-plant unknown. The type-series was taken in association with other species known to feed on *Tamarix*. Moths have been collected at light in April.

DISTRIBUTION. S. Iran (Luristan).

MATERIAL EXAMINED.

Holotype ♂, IRAN: S. Iran, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 15.iv.1972 (*Exped. Mus. Vind.*) (NM, Vienna).

Paratypes. IRAN: 1 ♂, S. Iran, [Luristan,] 8 km E. of Bandar-Abbas, 23.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 6 ♂, 12 ♀, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 10., 15.iv.1972, 21.iv.–17.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 3 ♂, 1 ♀, [Luristan,] 22 km E. of Bandar-Abbas, 19. iv., 10.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 1 ♂, 3 ♀, [Luristan,] 30 km E. of Bandar-Abbas, 3.iv.1970, 8.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 3 ♀, [Luristan,] 13 km NE. of Bandar-Abbas, 6.iv.1972, 24.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 3 ♂, 2 ♀, [Luristan,] 22 km N. of Bandar-Abbas, 9.iv.1972, 18., 25.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 1 ♀, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna).

Ornativálva roseosuffusella Sattler, 1967

Ornativálva roseosuffusella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* 26(3) : 42, pl. 3, fig. 18, pl. 9, fig. 47. Holotype ♂, IRAN: W. Iran, Khuzistan, Shadegan, 1.–8.iii.1956 (*Richter*) (genitalia slide no. 298b, Sattler; SMN, Stuttgart) [examined].

GENITALIA ♂. Sattler, 1967, pl. 3, fig. 18.

GENITATIA ♀. Sattler, 1967, pl. 9, fig. 47.

BIOLOGY. Host-plant unknown. The type-specimens have been collected in March and April.

DISTRIBUTION. W. Iran (Khuzistan).

Ornativálva zonella (Chrétien, 1917)

Teleia zonella Chrétien, 1917, *Annls Soc. ent. Fr.* 85 : 474. Lectotype ♀, TUNISIA: Gafsa, larva on *Tamarix*, 21.vi., moth emerged 3.v.1909 (*Chrétien*) (genitalia slide no. 370c, Sattler; MNHN, Paris), designated by Sattler, 1967 : 88 [examined].

Gelechia zonella (Chrétien) Caradja, 1920 : 99.

Gelechia zonella (Chrétien); Meyrick, 1925a : 78.

Teleia cimelion Amsel, 1935a, *Veröff. dt. Kolon. u. Übersee-Mus. Bremen* **1** : 210, pl. 11, figs 14, 15. Type ♀, ISRAEL: south end of Dead Sea, 15.-27.iii.1933 (*Aigner*) (location of type unknown) [not examined]. **Syn. n.**

Gelechia cimelion (Amsel) Gaede, 1937 : 154.

Gelechia zonella (Chrétien); Gaede, 1937 : 231.

Ornativulva cimelion (Amsel) Sattler, 1960 : 59.

Ornativulva iranella Sattler, 1967, *Beitr. naturk. Forsch. Südwdtl.* **26**(3) : 44, pl. 3, fig. 19. Holotype ♂, IRAN: S. Iran, [Kerman,] Jiroft ('Djiroft'), Anbar-Abad, 21.-30.iv.1956 (*Richter*) (genitalia slide no. 297b, Sattler; SMN, Stuttgart) [examined]. **Syn. n.**

Ornativulva zonella zonella (Chrétien) Sattler, 1967 : 44, 88, pl. 1, fig. 6, pl. 3, fig. 20, pl. 9, fig. 48.

Ornativulva zonella cimelion (Amsel); Sattler, 1967 : 45, pl. 1, fig. 7, pl. 10, fig. 49.

GENITALIA ♂. Sattler, 1967, pl. 3, figs 19, 20.

GENITALIA ♀. Sattler, 1967, pl. 9, fig. 48, pl. 10, fig. 49.

REMARKS. The examination of fresh material and the previously studied specimens has led me to the conclusion that the separation of *cimelion* as a subspecies of *zonella* is not justified and that *iranella* is only a form of *zonella*.

T. cimelion was described from 'Typen und Cotypen, 3♀♀'. I have been unable to locate a specimen labelled 'Typus'; however, two 'Cotypus' ♀ have been examined.

BIOLOGY. Host-plant: *Tamarix* species (moths bred by Chrétien). According to Chrétien (1917 : 475) the larva lives in a small silken tube between two or three twigs of *Tamarix*. It is fully grown in November and pupates on the ground in a cocoon which is covered with particles of soil. For a description of the larva see Chrétien (loc. cit.). Moths have been taken by various collectors between March and June.

DISTRIBUTION. Algeria; Tunisia; Israel; Saudi Arabia; S. Iran (Kerman, Luristan).

FURTHER MATERIAL EXAMINED.

IRAN: 1 ♂, 1 ♀, S. Iran, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 10., 15.iv.1972 (*Expd. Mus. Vind.*) (NM, Vienna); 2 ♂, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Expd. Mus. Vind.*) (NM, Vienna).

THE *ERUBESCENS*-GROUP

(Text-fig. 4)

Head with or without enlarged scale bases and frontal process. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2). Fore wing with or without basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia uncus reduced; costa and valva present, harpe digitate or clavate, in *ignota* absent. Sacculus partially separated from valva. Anellus membranous or anellus lobes weakly sclerotized. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae. Apophysis anterior well developed, rod-like. Sclerotized antrum developed. Signum single or divided into two, with pair of strong spines or transverse tooth-like ridges.

BIOLOGY. Several species have been bred on *Tamarix*.

Ornativalva levifrons sp. n.

(Pl. 1, fig. 1; Pl. 2, fig. 17; Pl. 14, fig. 84; Pl. 21, fig. 107; Text-fig. 22)

♂, ♀. 6.0-7.0 mm. Head without enlarged scale bases or frontal process. Vertex pale, without dark longitudinal line. Labial palpus pale, outer surface of second segment dark brown near base, ochreous at apex; third segment light ochreous above, brown below. Thorax ochreous, laterally brown. Tegula brown with light apex. Anterior half of fore wing pale ochreous with brown markings. In fresh specimens lighter area suffused with pink. Posterior half of fore wing ochreous with short, dark brown basal streak, longer streak along basal half of fold, patch behind middle of fold and patch near end of cell.

GENITALIA ♂ (Pl. 14, fig. 84). Lateral margins of uncus parallel, posterior margin slightly rounded, with number of setae. Anterior margin of tegumen with deep square emargination. Harpe short, robust, densely set with setae. Sacculus reaches middle of valva. Basal third of aedeagus bulbous, apical two-thirds slender, strongly curved before apex.

GENITALIA ♀ (Pl. 21, fig. 107). Antrum large, funnel-shaped, anterior portion narrow. Ductus bursae three to four times length of apophysis posterior, wider than narrow anterior portion of antrum. Signum in posterior part of corpus bursae, near entrance of ductus bursae, composed of pair of weakly sclerotized basal plates with transverse ridge; basal plates connected by narrow sclerotized bridge. Posterior margin of seventh sternite with shallow median emargination (Text-fig. 22).

REMARKS. *O. levifrons* is closely related to *erubescens* and *lilyella*, differing from *erubescens* by the dark markings of the fore wing which are not strongly angulate at the fold, the short harpe, the shape of the aedeagus, the antrum and the signum with sclerotized bridge. *O. levifrons* differs from *lilyella* by the absence of a frontal process of the head, the presence of a dark basal streak on the fore wing, the short robust harpe, the long ductus bursae and the weaker signum with a narrower sclerotized bridge. *O. levifrons* differs from *arabica* by the presence of a light area between costa and fold on the fore wing. In the ♂ genitalia the uncus is shorter, the harpe more globular and the saccus narrower. The ♀ genitalia of *levifrons* are very similar to those of *arabica* but the tubular part of the antrum is narrower and the sclerotized bridge between both parts of the signum is very narrow; however, the width of the bridge is variable in *arabica*. The ♀ genitalia of *levifrons* are also very similar to those of *lilyella*, *aspera* and *pulchella*, all of which are distinguished externally by the frontal processes of the head. *O. levifrons* is the only Mongolian species of the *erubescens*-group without modified head structures.

BIOLOGY. Host-plant unknown. Moths have been taken by Kaszab between 23 June and 5 July.

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (TM, Budapest).

Paratypes. MONGOLIA: 2 ♂, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (TM, Budapest; BMNH); 1 ♂, Bajanchongor aimak, spring Talyn Bilgech bulag, 47 km E. of borderpost Caganbulag, 1200 m, 23.vi.1967 (*Kaszab*, no. 840) (TM, Budapest); 1 ♀, Bajanchongor aimak, oasis Dzun mod, 100 km S. of Somon Schine žinst, 1300 m, 29.vi.1967

(*Kaszab*, no. 869) (BMNH); 1 ♂, Chovd aimak, 10 km SSW. of Somon Bulgan, 1200 m, 5.vii.1966 (*Kaszab*, no. 633) (TM, Budapest).

Ornativálva erubescens (Walsingham, 1904)

(Pl. 5, figs 36–38; Text-fig. 4)

Gelechia erubescens Walsingham, 1904, *Entomologist's mon. Mag.* **40** : 265. Lectotype ♀ [not ♂ as stated by Walsingham], ALGERIA: Biskra, 11.iii.1903 (*Walsingham*) (genitalia slide no. 6145; BMNH), designated by Sattler (1967 : 47) [examined].

Gelechia erubescens Walsingham; Meyrick, 1925a : 79.

[*Gelechia plutelliformis* Staudinger; Amsel, 1935b : 263 (partim). Misidentification.]

Gelechia erubescens Walsingham; Gaede, 1937 : 171.

Ornativálva erubescens (Walsingham) Sattler, 1964 : 578.

Ornativálva erubescens (Walsingham); Amsel, 1966 : 128.

Ornativálva erubescens (Walsingham); Sattler, 1967 : 45, 47, pl. 1, fig. 8, pl. 4, figs 21a–c, 22, pl. 10, fig. 50.

Head (Pl. 5, figs 36–38) without enlarged scale bases or frontal process.

GENITALIA ♂. Sattler, 1967, pl. 4, figs 21a–c, 22.

GENITALIA ♀. Sattler, 1967, pl. 10, fig. 50.

REMARKS. The lectotype ♀ was erroneously recorded by Walsingham as 'type ♂' (no. 96 595). The 'type ♀' (no. 96 596) is not conspecific with the lectotype but belongs to *O. ignota*.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in January, May, August and November.

DISTRIBUTION. Morocco; Algeria; Tunisia; Libya; Egypt; Sudan; Israel; Saudi Arabia; Iran; Pakistan.

FURTHER MATERIAL EXAMINED.

PAKISTAN: 1 ♀, 150 km SW. of Quetta, 900 m, 13.v.1965 (*Kasy & Vartian*) (NM, Vienna) [first record for Pakistan].

Ornativálva lilyella (Lucas, 1944)

(Pl. 6, figs 39–41)

Gelechia lilyella Lucas, 1944, *Bull. Soc. ent. Fr.* **48** : 135. Holotype ♂, ALGERIA: El Goléa, 21.ii.1939 (*Lucas*) (genitalia slide no. 581a, Sattler; MNHN, Paris) [examined].

Ornativálva lilyella (Lucas) Sattler, 1967 : 48, pl. 4, fig. 21d, 23, pl. 10, fig. 51.

Head (Pl. 6, figs 39–41) with arc of irregularly arranged teeth above transfrontal sulcus. Short thick frontal process truncate, dorsally and laterally smooth, without teeth or scale bases, anterior surface densely set with teeth; some big teeth scattered in area below frontal process.

GENITALIA ♂. Sattler, 1967, pl. 4, figs 21d, 23.

GENITALIA ♀. Sattler, 1967, pl. 10, fig. 51.

REMARKS. The head structure resembles that of *aspera*; however, the frontal process has a wider diameter than that of *aspera* and the frons is not so densely

set with teeth. The ♀ genitalia are very similar to those of *levifrons*, *aspera* and *pulchella*.

BIOLOGY. Host-plant unknown. Moths have been collected by Dumont and Lucas in February–April and October.

DISTRIBUTION. Algeria.

Ornativalka aspera sp. n.

(Pl. 1, fig. 2; Pl. 2, fig. 18; Pl. 6, figs 42–44; Pl. 14, fig. 85; Pl. 22, fig. 108)

♂, ♀. 5.0–6.5 mm. Head (Pl. 6, figs 42–44) with arc of irregular teeth above transfrontal sulcus. Frontal process short, truncate, dorsal surface smooth, without teeth or scale bases, frontal and ventral surfaces covered irregularly with enlarged scale bases. Frons pale, vertex light brown, dark brown around ocellus. Thorax light brown, along lateral margins dark brown. Tegula dark brown. Labial palpus whitish; outer surface of second segment light brown at base and before apex; third segment brown below. Antenna dark brown, above with light rings, whitish below. Fore wing with basal two-thirds of anterior half dark brown, in places lighter towards costa; posterior half light brown, with short dark basal streak. Dark brown area of wing angulate at fold, with whitish tooth extending deep into area between dark angles; in some places dark angles lined with white scales. Apical third of wing light brown, with dark shadow on costa near apex; whitish patch behind dark dot at end of cell. Base of fringes with indistinct dark line.

GENITALIA ♂ (Pl. 14, fig. 85). Lateral margins of uncus parallel. Anterior margin of tegumen with square emargination. Harpe digitate, about half length of costa. Apical half of valva curved, pointed, but not ending in distinct spine. Terminal quarter of sacculus free, not fused with valva; inner surface near middle with distinct projections which point towards costa. Dorsal margin of sacculus with long setae.

GENITALIA ♀ (Pl. 22, fig. 108). Antrum large, funnel-shaped, anterior portion narrow. Ductus bursae approximately twice length of apophysis posterior, half width of narrow anterior portion of antrum. Signum in posterior part of corpus bursae, near entrance of ductus bursae, composed of pair of weakly sclerotized basal plates with transverse ridge; basal plates connected by sclerotized bridge of moderate width.

REMARKS. *O. aspera* is closely related to *pulchella* but is slightly smaller, the frontal process of the head is slightly shorter and a distinct arc of irregular teeth is present above the transfrontal sulcus. In the fore wing *aspera* differs from *pulchella* by the short dark basal streak, the light brown area which does not extend to the apex, the whitish tooth between the angles of the dark anterior markings, and the more distinct black dot at the end of the cell. The ♂ genitalia differ from those of *pulchella* by the stronger, less curved, terminal portion of the valva and the sacculus which is widest near its middle. In the ♀ genitalia the setae with strongly curved tips on the posterior margin of the papilla analis are weaker and more numerous, the sclerotized part of the eighth tergite is narrower, the ductus bursae is shorter and narrower and the sclerotized bridge of the signum is wider than in *pulchella*. As only 1 ♀ of *pulchella* was available for examination it is impossible to decide which of these differences are of significance. The ♀ genitalia are also very similar to those of *levifrons* but differ by the shorter and narrower ductus bursae. *O. levifrons* is externally distinguished by the absence of frontal modifications of the

head. *O. aspera* differs from the closely related *lilyella*, which is known only from Algeria, by the smaller size, the large number of teeth around the frontal process of the head, the basal streak and the distinct pattern of the fore wing, the longer, more digitate harpe, the sacculus and the shorter antrum.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab between 22 June and 7 July in localities where *Tamarix* occurs (Kaszab, 1968 : 22, 31).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest).

Paratypes. MONGOLIA: 5 ♂, 3 ♀, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest; BMNH); 1 ♂, 1 ♀, South Gobi aimak, 10 km NNE. of the town Dalanzadgad, 1450 m, 7.vii.1967 (*Kaszab*, no. 898) (TM, Budapest; BMNH); 2 ♂, 4 ♀, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (TM, Budapest; BMNH).

Ornathalva pulchella sp. n.

(Pl. 1, fig. 3; Pl. 2, fig. 19; Pl. 7, figs 45-47; Pl. 14, fig. 86; Pl. 22, fig. 109)

♂, ♀. 6.0-7.0 mm. Head (Pl. 7, figs 45-47) without distinct arc of irregular teeth above transfrontal sulcus. Frontal process truncate, smooth, frontal surface covered with teeth. Frontal area below transfrontal sulcus and frontal process slightly raised, covered with strong irregular teeth. Head pale ochreous, brown along eye. Thorax light brown, lateral margins dark brown. Tegula dark brown. Labial palpus whitish, outer surface of second segment with dark brown patch at base. Antenna dark brown with narrow light rings above, whitish below. Fore wing without basal streak. Anterior half of wing dark brown, markings angulate at fold, posterior half light brown up to apex. Small dark dot at end of cell, sometimes indistinct. Base of fringes with indistinct dark line.

GENITALIA ♂ (Pl. 14, fig. 86). Lateral margins of uncus parallel, posterior margin rounded, with setae. Anterior margin of tegumen with square emargination. Harpe slender, digitate. Apical portion of valva slender, strongly curved, apex with short spine. Sacculus triangular, with acute angle pointing towards base of valva; dorsal margin with long setae. Aedeagus with bulbous base, apical two-thirds curved, tapering.

GENITALIA ♀ (Pl. 22, fig. 109). Antrum funnel-shaped, ductus bursae approximately three times length of apophysis posterior, same width as narrow anterior portion of antrum. Signum in posterior part of corpus bursae, near entrance of ductus bursae, composed of pair of weakly sclerotized basal plates with transverse ridge; basal plates connected by very narrow sclerotized bridge.

REMARKS. *O. pulchella* is closely related to *aspera*; for differences see there. It is also closely related to the Algerian *lilyella* from which it differs by the darker colour and the more distinct markings of the fore wing, the more clearly defined frontal process of the head, the triangular sacculus, and the very narrow sclerotized bridge of the signum. The ♀ genitalia are very similar to those of *levifrons* but differ by the wider anterior portion of the antrum and the smaller signum. *O.*

levifrons is externally distinguished by the absence of frontal modifications of the head.

BIOLOGY. Host-plant unknown. The type-series has been collected by Kaszab on 22 June in a locality where *Tamarix* occurs (Kaszab, 1968 : 22).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (genitalia slide no. 635d, Sattler; TM, Budapest).

Paratypes. MONGOLIA: 2 ♂, 1 ♀, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (TM, Budapest; BMNH).

***Ornativalva ochraceofusca* Sattler, 1967**

(Pl. 1, fig. 5; Pl. 15, fig. 87; Pl. 22, fig. 110)

Ornativalva ochraceofusca Sattler, 1967, *Beitr. naturk. Forsch. Südwdl.* 26(3) : 77, pl. 18, fig. 74.

Holotype ♂, AFGHANISTAN: W. of Charikar (N. of Kabul), 1.viii.1963 (Kasy & Vartian) (genitalia slide no. 3277; NM, Vienna) [examined].

Head without enlarged scale bases or frontal process.

GENITALIA ♂ (Pl. 15, fig. 87). Valva strongly bent at middle, narrow, distally nearly as wide as at separation point of sacculus.

GENITALIA ♀ (Pl. 22, fig. 110). Apophysis posterior as long as eighth segment (including apophysis anterior). Short sclerotized antrum with longitudinal fold. Signum a narrow sclerotized plate with pair of long curved spines. Posterior margin of seventh segment with deep median emargination.

REMARKS. *O. ochraceofusca* was previously placed tentatively in the *plutelliformis*-group (Sattler, 1967 : 78) but is here transferred to the *erubescens*-group. In the ♂ genitalia the length of the harpe and the shape of the sacculus were found to be variable. In the holotype from Afghanistan the distal half of the costa is club-shaped, while in Turkish specimens it is digitate. The ♀ genitalia are very similar to those of *ornatella*. In *ornatella* the eighth segment is laterally set with dense rows of microtrichia between the base of the apophysis anterior and the posterior margin of the segment. In *ochraceofusca* there is only a limited area set with very small microtrichia or they are completely absent. In *ornatella* the antrum appears to be longer than in *ochraceofusca* and the apophysis anterior is distally more clearly dilated. Externally *ornatella* is characterized by a clear basal streak on the fore wing, while *ochraceofusca* has some dark scales near the fore wing base without developing a clear basal streak. Although the ♂ genitalia are quite distinct there appears to be no reliable character for separating the ♀ genitalia of *ochraceofusca* and *ornatella*.

When examined earlier, the holotype bore only a temporary label, the data of which were cited in the original description (Sattler, 1967 : 78). The completed and corrected label data are cited above.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in June, July and August in association with other Lepidoptera species known to feed on *Tamarix*.

DISTRIBUTION. Turkey; Afghanistan.

FURTHER MATERIAL EXAMINED.

TURKEY: 5 ♂, 4 ♀, 10 km NW. of Gümüşchane, 1000 m, 10.vi.1969 (*Kasy; Arenberger*) (NM, Vienna; coll. Arenberger, Vienna; BMNH); 3 ♂, 2 ♀, 40 km SW. of Elazığ, 900 m, 18.vi.1969 (*Kasy; Arenberger*) (NM, Vienna; coll. Arenberger, Vienna; coll. Jäckh, Bidingen; BMNH) [first record for Turkey]. AFGHANISTAN: 3 ♀, Ghorband Valley, N. of Kabul, 1900 m, 30.vii.1965 (*Kasy & Vartian*) (NM, Vienna; BMNH).

Ornativalva species 1

(Pl. 15, fig. 88; Pl. 23, fig. 111; Text-fig. 23)

♂, ♀. 4.0-5.0 mm. Most of the moths are in poor condition. Head without enlarged scale bases or frontal process. Dark W-shaped markings of fore wing crossing fold at one-third and two-thirds. No basal streak. Distinct black dots in cell at distal end of W-markings and at end of cell.

GENITALIA ♂ (Pl. 15, fig. 88). Distal third of costa twice as wide as proximal two-thirds. Harpe slender. Valva straight, narrow. Sacculus triangular, widest at middle.

GENITALIA ♀ (Pl. 23, fig. 111). Eighth segment laterally with large zone of densely set microtrichia. Apophysis anterior half length of apophysis posterior, slightly dilated distally. Antrum short, funnel-shaped, half length of apophysis anterior. Anterior margin of eighth sternite with rounded projection near antrum. Signum pair of irregularly shaped medially fused sclerotized basal plates with sharp spine. Posterior margins of seventh tergite and sternite with deep median emargination (Text-fig. 23).

REMARKS. The ♂ genitalia differ from those of *ochraceofusca* by the valva which is straight, not strongly bent at middle, and the sacculus which is widest at middle, not in distal half. The ♀ genitalia differ from those of *ochraceofusca* by the dense area of microtrichia on the eighth segment, the longer antrum, the rounded anterior margin of the eighth sternite, the much weaker base of the signum, the strong signum spines and the distinct median emargination of the seventh sternite.

The fore wing base is light, without basal streak; in *ochraceofusca* it is dark, but no basal streak is separated; in *ornatella* a distinct basal streak is present.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab in June in localities where *Tamarix* occurs (Kaszab, 1968 : 22, 23, 26-27).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

MONGOLIA: 1 ♂, South Gobi aimak, Zöölön ul, 58 km WSW. of Somon Bajandalaj, 1500 m, 16.vi.1967 (*Kaszab*, no. 807) (TM, Budapest); 2 ♂, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest; BMNH); 2 ♀, Bajanchongor aimak, spring Talyn Bilgech bulag, 47 km

E. of borderpost Caganbulag, 1200 m, 23.vi.1967 (*Kaszab*, no. 840) (TM, Budapest); 3 ♂, Bajanchongor aimak, oasis Echin gol, 90 km NE. of borderpost Caganbulag, 950 m, 27.-29.vi.1967 (*Kaszab*, nos 857, 858) (TM, Budapest); 1 ♂, 1 ♀, Bajanchongor aimak, oasis Dzun mod, 100 km S. of Somon Schine žinst, 1300 m, 29.vi.1967 (*Kaszab*, no. 869) (TM, Budapest; BMNH).

Ornativálva species 2

(Pl. 15, fig. 89)

Head without enlarged scale bases or frontal process.

GENITALIA ♂ (Pl. 15, fig. 89). Valva narrow, straight, distally rounded, narrowest at three-quarters. Sacculus narrow, not triangular.

GENITALIA ♀. Unknown.

REMARKS. Externally like species 1; differing in the genitalia by the distally dilated valva and the narrow sacculus.

BIOLOGY. Host-plant unknown. The moths have been collected by Kaszab in June in localities where *Tamarix* occurs (*Kaszab*, 1966 : 591; 1968 : 22).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

MONGOLIA: 1 ♂, Gobi Altaj aimak, Zachuj Gobi, 10 km N. of Chatan chajrchan mountains, 1150 m, 27.vi.1966 (*Kaszab*, no. 594) (TM, Budapest); 1 ♂, South Gobi aimak, 100 km W. of borderpost Ovot Chural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest).

Ornativálva species 3

(Pl. 16, fig. 90)

Head without enlarged scale bases or frontal process.

GENITALIA ♂ (Pl. 16, fig. 90). Valva broad at base, not strongly bent, distal third narrow.

GENITALIA ♀. Unknown.

REMARKS. Like species 1 and 2 but slightly bigger, fore wing between fold and inner margin distinctly ochreous. In the ♂ genitalia the sacculus is similar to that of species 2 but the distal portion of the valva is not dilated.

BIOLOGY. Host-plant unknown. The only specimen has been collected by Kaszab in June.

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

MONGOLIA: 1 ♂, Bajanchongor aimak, Cagan Bogd ul, Tooroin bulag, 13 km E. of borderpost Caganbulag, 1500 m, 25.vi.1967 (*Kaszab*, no. 849) (TM, Budapest).

Ornativalka frontella sp. n.

(Pl. 1, fig. 4; Pl. 2, fig. 20; Pl. 7, figs 48-50; Pl. 16, fig. 91)

♂, ♀. 6.0-7.0 mm. Head (Pl. 7, figs 48-50) with dorsal surface of strongly curved arc above transfrontal sulcus almost completely free of scales. Vertex without enlarged scale bases. Strong frontal process below transfrontal sulcus truncate, anterior surface covered with enlarged scale bases. Frons below transfrontal sulcus with numerous enlarged scale bases arranged in irregular rings. Head pale ochreous, brown along eye. Labial palpus whitish, outer surface with scattered light brown scales; third segment brown, lighter above. Antenna dark brown with lighter rings; light below. Thorax light brown, laterally dark brown. Tegula dark brown. Light anterior and dark posterior half of fore wing divided by black longitudinal markings. Anterior half of wing suffused with pink, costa lined with brown scales. Black longitudinal markings lined anteriorly with white, separated by white patch in middle of cell. Markings gradually becoming lighter towards fold. Inner margin light brown up to fold, sometimes suffused with pink, with distinct dark basal streak.

GENITALIA ♂ (Pl. 16, fig. 91). Uncus short, tubular, posterior margin set with setae. Anterior margin of tegumen with deep angular emargination; sclerotized part of tegumen reduced to narrow frame. Costa slightly shorter than valva, distal third hardly wider than base, not clavate, densely set with short setae. Harpe approximately two-thirds length of costa, bent at right angle near middle. Basal half of valva broad, distal half narrow, curved, apex with short spine. Sacculus triangular, widest at base. Aedeagus with swollen base, tapering, apical third strongly curved. Manica partially sclerotized.

GENITALIA ♀. Unknown. The only available ♀ has lost its abdomen.

REMARKS. *O. frontella* differs from *aspera* and *pulchella* by the strongly developed arc above the transfrontal sulcus of the head, the light anterior half of the fore wing and the presence of a distinct basal streak. In the ♂ genitalia *frontella* differs by the bent harpe, the triangular sacculus which is widest at the base, the aedeagus with strongly curved apical portion and the sclerotized manica.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab in June and July in localities where *Tamarix* occurs (Kaszab, 1966 : 591, 597; 1968 : 22).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (genitalia slide no. 637c, Sattler; TM, Budapest).

Paratypes. MONGOLIA: 1 ♀, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (TM, Budapest) [abdomen missing]; 2 ♂, Gobi Altaj aimak, Zachuj Gobi, 10 km N. of Chatan chajrchan mountains, 1150 m, 27.vi.1966 (Kaszab, no. 594) (TM, Budapest; BMNH); 2 ♂, Chovd aimak, 10 km SSW. of Somon Bulgan, 1200 m, 5.vii.1966 (Kaszab, no. 633) (TM, Budapest; BMNH).

Ornativalka arabica Sattler, 1967

Ornativalka arabica Sattler, 1967, *Beitr. naturk. Forsch. SüdWtl.* **26**(3) : 48, pl. 4, fig. 25 [not 24!], pl. 10, fig. 52. Holotype ♂, SAUDI ARABIA: Jeddah, 29.xii.1957 (Diehl) (genitalia slide no. 350a, Sattler; LN, Karlsruhe) [examined].

Head without enlarged scale bases or frontal process.

GENITALIA ♂. Sattler, 1967, pl. 4, fig. 25 [not 24!].

GENITALIA ♀. Sattler, 1967, pl. 10, fig. 52.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in February–April, August, November and December.

DISTRIBUTION. Sudan; Saudi Arabia.

FURTHER MATERIAL EXAMINED.

SAUDI ARABIA: 1 ♂, Mecca, 15.iii.1934 (*Philby*) (BMNH).

Ornativulva sesostrella (Rebel, 1912)

Gelechia sesostrella Rebel, 1912, *Dt. ent. Z. Iris* **26** : 88. Holotype ♀, EGYPT: Helwân, larva on *Tamarix*, moth emerged 15.–29.iv.1910 (*Debski*) (genitalia slide no. 3061; NM, Vienna) [examined].

Gelechia sesostrella Rebel; Meyrick, 1925a : 79.

Gelechia sesostrella Rebel; Gaede, 1937 : 212.

Ornativulva sesostrella (Rebel) Sattler, 1964 : 578.

Ornativulva sesostrella (Rebel); Sattler, 1967 : 50, pl. 4, fig. 24 [not 25!], pl. 11, fig. 53.

Head without enlarged scale bases or frontal process.

GENITALIA ♂. Sattler, 1967, pl. 4, fig. 24 [not 25!].

GENITALIA ♀. Sattler, 1967, pl. 11, fig. 53.

BIOLOGY. Host-plants: *Tamarix* species (moths bred by Debski and Kasy). Larvae have been collected by Kasy in January and February on *Tamarix* (?) *nilotica* (Ehrenberg) Bunge; the moths emerged in February. Moths have been taken by various collectors in January–August, October and November. It appears that *sesostrella* breeds continuously where conditions permit this. The larva was described by Debski on a specimen label as 'larva libera fusiformis'; no detailed description is available.

DISTRIBUTION. Algeria; Tunisia; Egypt; Sudan; Saudi Arabia; S. Iran (Kerman); Pakistan.

FURTHER MATERIAL EXAMINED.

IRAN: 1 ♂, S. Iran, [Kerman,] 80 km SE. of Sirjan, 9.iv.1970 (*Kasy*) (NM, Vienna) [first record for Iran]. PAKISTAN: 1 ♀, 80 km NW. of Quetta, 2100 m, 15.v.1965 (*Kasy & Vartian*) (NM, Vienna) [first record for Pakistan].

Ornativulva ignota Sattler, 1967

(Pl. 23, fig. 112)

Ornativulva ignota Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26**(3) : 52, pl. 4, fig. 26. Holotype ♂, ALGERIA: Hassi el Abiod, 29.ix.1918 (*Dumont*) (genitalia slide no. 376c, Sattler; MNHN, Paris) [examined].

[*Gelechia erubescens* Walsingham, 1904 : 265 (partim). Misidentification.]

Head without enlarged scale bases or frontal process.

GENITALIA ♂. Sattler, 1967, pl. 4, fig. 26.

GENITALIA ♀ (Pl. 23, fig. 112). Apophysis anterior half length of apophysis posterior. Sclerotized antrum slightly shorter than apophysis anterior. Signum pair of irregular basal plates with one straight slender spine each.

REMARKS. The ♀ genitalia of *ignota* are similar to those of *sesostrella* but differ by the much longer antrum.

Although the holotype and paratype are labelled 'Tunisie', their localities (Hassi el Abiod and Laghouat) are situated in Algeria.

BIOLOGY. Host-plant: *Tamarix* species (moth bred by Dumont). No information is available on the larva or larval habits. Moths have been bred or collected by Dumont and Walsingham in March, July and September.

DISTRIBUTION. Algeria.

FURTHER MATERIAL EXAMINED.

ALGERIA: 1 ♀, Biskra, 13.iii.1903 (*Walsingham*, no. 96 596) (genitalia slide no. 6267; BMNH) [paralectotype of *Gelechia erubescens* Walsingham].

THE ORNATELLA-GROUP

(Text-fig. 5)

Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow hair-like scales (Text-fig. 2). Fore wing with basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia costa, harpe, valva and sacculus present. Conspicuous lobe arising in angle between valva and sacculus. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae; eighth segment laterally set densely with rows of microtrichia. Antrum modified, with longitudinal folds. Signum with pair of strong spines; basal plates connected by wide sclerotized bridge.

BIOLOGY. Host-plant unknown. Moths have been collected in localities where *Tamarix* was observed or in association with other Lepidoptera species known to feed on *Tamarix*.

Ornativalsa ornatella Sattler, 1967

(Pl. 16, fig. 92; Pl. 23, fig. 113; Text-figs 5, 13-17, 24)

Ornativalsa ornatella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* 26(3) : 78, pl. 2, fig. 12, pl. 7, fig. 39, pl. 14, fig. 65, pl. 16, fig. 70. Holotype ♂, AFGHANISTAN: Herat, 970 m, 5.v.1956 (*Amsel*) (genitalia slide no. 292a, Sattler; LN, Karlsruhe) [examined].

GENITALIA ♂ (Pl. 16, fig. 92; Text-figs 13, 14).

GENITALIA ♀ (Pl. 23, fig. 113; Text-figs 15-17, 24). Seventh segment modified, tergite and sternite medially emarginate; emargination of sternite much wider than that of tergite (Text-fig. 24).

REMARKS. In a ♂ from Rumania the anterior two-thirds of the fore wing up to the fold are almost entirely of a uniform grey, whereas the area between the fold and the inner margin is ochreous. In the ♀ paratype from Iran the anterior half of the fore wing is not as dark grey as in the Rumanian specimen and the ochreous

area along the inner margin extends to the apex. The longitudinal streak which extends from the base along the posterior margin of the cell is distinct in the specimens from Iran, Afghanistan and Mongolia but is absent in the Rumanian specimen. The wings of a ♀ from Sarepta are too denuded of scales for an external comparison. The Sarepta specimen was originally identified by Christoph as *plutelliformis*. Walsingham (1908 : 939) recognized it as 'an allied species distinct from both [*plutelliformis* and *sieversi*]'

In the ♂ genitalia of specimens from Mongolia the lobe that arises in the angle between valva and sacculus is straight, not curved, and is distally much wider than at the base (Text-fig. 13). In a ♂ from Rumania the harpe is much shorter than in specimens from Afghanistan and Mongolia and the lobe between valva and sacculus is distinctly larger than the free distal end of the sacculus (Text-fig. 14). In the ♀ genitalia of specimens from Mongolia the distal end of the apophysis anterior is wider than in specimens from Iran and Afghanistan (Text-figs 15, 16). In a ♀ from Sarepta the apophysis anterior is distally not dilated (Text-fig. 17).

BIOLOGY. Host-plant unknown. Most of the Mongolian specimens have been collected at light in localities where *Tamarix* occurs (Kaszab, 1968 : 23, 26, 27). Moths have been taken by various collectors in May–July, the Rumanian specimen in August.

DISTRIBUTION. Rumania; U.S.S.R. (S. Russia); Turkey; Iran; Afghanistan; Mongolia.

FURTHER MATERIAL EXAMINED.

RUMANIA: 1 ♂, [Dobrogea,] Sfintu Gheorghe, 15.viii.1971 (*Popescu-Gorj*) (MINGA, Bucharest) [first record for Rumania]. **TURKEY:** 1 ♀, Taurus, 20 km S. of Mut, 8.vii.1968 (*Arenberger*) (coll. Arenberger, Vienna) [first record for Turkey]. **MONGOLIA:** 1 ♂, 1 ♀, Bajan-chongor aimak, spring Talyn Bilgech bulag, 47 km E. of borderpost Caganbulag, 1200 m, 23.vi.1967 (*Kaszab*, no. 840) (TM, Budapest); 2 ♀, Bajan-chongor aimak, Cagan Bogd ul, Tooroin bulag, 13 km E. of borderpost Caganbulag, 1500 m, 25.vi.1967 (*Kaszab*, no. 849) (TM, Budapest); 2 ♂, 5 ♀, Bajan-chongor aimak, oasis Echin gol, 90 km NE. of borderpost Caganbulag, 950 m, 27.–29.vi.1967 (*Kaszab*, nos 857, 858, 859) (TM, Budapest; BMNH); 8 ♂, 3 ♀, Bajan-chongor aimak, oasis Dzun mod, 100 km S. of Somon Schine žinst, 1300 m, 29.vi.1967 (*Kaszab*, no. 869) (TM, Budapest; BMNH) [first record for Mongolia].

THE *PLICELLA*-GROUP

(Text-fig. 6)

Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow hair-like scales. Fore wing without basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia uncus reduced; costa, valva and harpe present. Sacculus separated from valva. Anellus lobes sclerotized. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae. Apophysis anterior rod-like, straight, or broad with bent distal

third. Sclerotized antrum well developed or absent. Cervix bursae with one or two sclerotized transverse folds. Pair of rounded signa densely set with spines.

BIOLOGY. Host-plant unknown.

Ornativalka plicella sp. n.

(Pl. 2, fig. 21; Pl. 17, fig. 93; Pl. 24, fig. 114; Text-fig. 6)

♂, ♀. 6.0–7.0 mm. Head ochreous. Labial palpus pale ochreous, outer surface of second segment with scattered brown scales, particularly at base; third segment strongly mixed with brown scales. Antenna dark brown with indistinct paler rings above, whitish below. Thorax ochreous, laterally brown, with weak longitudinal brown line. Tegula brown, sometimes with light apex. Fore wing dark, grey-brown, between fold and inner margin ochreous, division line between dark and light area W-shaped at fold. Inner margin dark brown at base but no distinct basal streak separated. Indistinct black dot at end of cell. Indistinct light mark on costa at two-thirds, no distinct outer transverse line. Apex of wing ochreous, indistinct line of short dark streaks at base of fringes.

GENITALIA ♂ (Pl. 17, fig. 93). Costa shorter than valva, slender, apical portion clavate. Harpe short, broad. Valva strongly curved at two-thirds, distal third narrow, apex rounded, without terminal spine. Sacculus two-thirds length of valva, narrow. Anellus lobes large, rounded. Aedeagus with big bulbous base and narrow apical half; apex rounded.

GENITALIA ♀ (Pl. 24, fig. 114). Apophysis posterior as long as eighth segment (including apophysis anterior). Distal third of apophysis anterior conspicuously bent. No sclerotized antrum. Ductus bursae shorter than abdomen. Cervix bursae bears two sclerotized folds with serrated edges; folds connected by narrow sclerotization. Corpus bursae globular, with pair of irregularly rounded signa with strong spines.

REMARKS. *O. plicella* differs from *undella* by the larger size, the darker colour of the fore wing and the ♀ genitalia with the strongly bent apophysis anterior, the two sclerotized folds of the cervix bursae and the absence of a sclerotized antrum.

BIOLOGY. Host-plant unknown. Moths have been collected by Kasy in April.

DISTRIBUTION. S. Iran (Luristan).

MATERIAL EXAMINED.

Holotype ♂, IRAN: S. Iran, [Luristan,] 100 km N. of Bandar-Abbas, 5.iv.1970 (*Exped. Mus. Vind.*) (genitalia slide no. 3877; NM, Vienna).

Paratypes. IRAN: 2 ♂, 2 ♀, S. Iran, [Luristan,] 100 km N. of Bandar-Abbas, 5.iv.1970 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH).

Ornativalka undella sp. n.

(Pl. 1, fig. 15; Pl. 3, fig. 22; Pl. 24, fig. 115)

♀. 5.0 mm. Fore wing dark brown between costa and fold, ochreous between fold and inner margin, division line between dark and light area W-shaped at fold. Light area crosses fold near middle and extends to end of cell. Wing ochreous at apex and along outer margin. Light dot on costa at two-thirds; no outer transverse line. Fringes ochreous, basal half mixed with brown.

GENITALIA ♂. Unknown.

GENITALIA ♀ (Pl. 24, fig. 115). Apophysis posterior nearly three times length of apophysis anterior. Apophysis anterior straight. Antrum well developed, about twice length of apophysis anterior. Cervix bursae with sclerotized fold. Corpus bursae globular, with pair of irregularly rounded signa with strong spines.

REMARKS. The holotype lacks the head which had to be reconstructed in the colour figure. The head structures are probably similar to those of *plicella*. *O. undella* differs from *plicella* by the smaller size, the lighter fore wing colour, the long antrum, the straight apophysis anterior and the presence of only one sclerotized fold in the cervix bursae.

BIOLOGY. Host-plant unknown. The only specimen has been collected by Kasy in May.

DISTRIBUTION. SE. Iran (Baluchestan).

MATERIAL EXAMINED.

Holotype ♀, IRAN: SE. Iran, [Baluchestan,] 100 km W. of Zahedan ('Sahidan'), 1150 m, 11.V.1965 (Kasy & Vartian) (genitalia slide no. 3864; NM, Vienna).

THE *TAMARICIELLA*-GROUP

(Text-figs 7-9)

Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2). Fore wing in some species with groups of raised scales, without (rarely with) basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia uncus reduced; costa and valva present; harpe short, rounded or specialized (*pharaonis*). Sacculus partially separated from valva. Anellus lobes weakly sclerotized. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae. Apophysis anterior short, rod-like. Sclerotized antrum absent, posterior part of ductus bursae sometimes weakly sclerotized (*pharaonis*, *misma*) or with sclerotized ring at starting point of ductus seminalis (*macrosignella*). Signum of varied shape.

BIOLOGY. Several species have been bred from *Tamarix*.

Ornativalva species 4

(Pl. 25, fig. 116)

♀. 5.0-5.5 mm. Specimens poorly preserved.

GENITALIA ♂. Unknown.

GENITALIA ♀ (Pl. 25, fig. 116). Apophysis posterior as long as eighth segment (including apophysis anterior). Apophysis anterior short, wide at base, not rod-like, distally bent. No sclerotized antrum. Ductus bursae short and wide, gradually widening into corpus bursae. Sclerotized plate of signum elongate, medially constricted, with pair of transverse ridges.

REMARKS. The signum appears somewhat similar to the signa of *lilyella* and *arabica*; however, the structure of the eighth abdominal segment, the short apophysis anterior and the absence of a sclerotized antrum place this species in the *tamariciella*-group.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab in June and July in localities where *Tamarix* occurs (Kaszab, 1966 : 597-598; 1968 : 26-27).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

MONGOLIA: 1 ♀, Chovd aimak, 10 km SSW. of Somon Bulgan, 1200 m, 5.vii.1966 Kaszab, no. 633) (TM, Budapest); 1 ♀, Bajanchongor aimak, oasis Echin gol, 90 km NE. of borderpost Caganbulag, 950 m, 27.-29.vi.1967 (Kaszab, no. 857) (BMNH).

Ornativlva indica Sattler, 1967

(Text-fig. 8)

Ornativlva indica Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26**(3) : 54, pl. 5, fig. 27, pl. 11 fig. 54. Holotype ♂, INDIA: Bihar, Pusa, 29.iii.1930 (Fletcher) (genitalia slide no. 6509; BMNH) [examined].

[*Gelechia tamaricella* Zeller; Maxwell-Lefroy, 1909 : 534. Incorrect subsequent spelling of *tamariciella* Zeller. Misidentification.]

[*Gelechia tamariciella* Zeller; Fletcher, 1920 : 82 (partim). Misidentification.]

[*Gelechia tamariciella* Zeller; Meyrick, 1925a : 78 (partim). Misidentification.]

[*Gelechia tamariciella* Zeller; Fletcher, 1932 : 41. Misidentification.]

GENITALIA ♂. Sattler, 1967, pl. 5, fig. 27.

GENITALIA ♀. Sattler, 1967, pl. 11, fig. 54.

BIOLOGY. Host-plant: *Tamarix* species (moths bred by Fletcher). The host-plant is possibly *Tamarix indica* Willdenow. Fletcher (1920 : 82; 1932 : 42) erroneously identified it as *Tamarix gallica* Linnaeus, which does not occur in Pakistan and India.

According to the literature (Maxwell-Lefroy, 1909 : 82, Fletcher, 1920 : 82; 1932 : 41) the larva ties three or four twigs together into a case which it carries about. It feeds on dry twigs of *Tamarix*. Larvae have been observed in February, March, May and December. Pupation takes place in a cocoon on the ground. The pupal period lasts from 8 to 15 days. For a description of the larva and pupa see Fletcher (1920 : 82; 1932 : 42). Moths have been bred or collected in May-July.

DISTRIBUTION. S. Iran (Luristan); Pakistan (Peshawar); India (Bihar).

FURTHER MATERIAL EXAMINED.

IRAN: 1 ♂, 4 ♀, S. Iran, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH) [first record for Iran].

Ornativlva pharaonis Sattler, 1967

Ornativlva pharaonis Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26**(3) : 58, pl. 2, fig. 10, pl. 5, fig. 28, pl. 17, fig. 73. Holotype ♂, SUDAN: Blue Nile Province, Wad Medani, 2.viii.1962 (*Remane*) (genitalia slide no. 19 859; BMNH) [examined].

GENITALIA ♂. Sattler, 1967, pl. 5, fig. 28.

GENITALIA ♀. Sattler, 1967, pl. 17, fig. 73.

BIOLOGY. Host-plant: *Tamarix* species (moths bred by Wiltshire and Trought); *Tamarix aphylla* (Linnaeus) Karsten (moths bred by Limon from larvae inhabiting the galls of *Eriophyes tlaiae* Trabut). Moths have been bred or taken by various collectors in March and June–November.

DISTRIBUTION. Tunisia; Libya; Egypt; Sudan; Israel.

FURTHER MATERIAL EXAMINED.

LIBYA: 1 ♀, Tripoli, larva on *Tamarix*, 22.xii.1960, moth emerged iii. 1961 (*Trought*) (BMNH) [first record for Libya]. ISRAEL: 1 ♂, 1 ♀, Ashkelon, larvae in galls of *Eriophyes tlaiae* Trabut on *Tamarix aphylla* (Linnaeus) Karsten, moths emerged 26., 27.x.1972 (*Limon*) (TAU, Tel-Aviv) [first record for Israel].

Ornativalva misma sp. n.

(Pl. 1, fig. 6; Pl. 3, fig. 23; Pl. 17, fig. 94; Pl. 25, fig. 117)

♂, ♀. 4.0 mm. Head pale ochreous, darker on vertex. Labial palpus whitish, outer surface of basal segment brown; outer surface of second segment with brown transverse bands at base and before apex; third segment with broad dark brown ring around middle and with dark apex. Antenna whitish below, above brown with paler rings. Thorax light brown, laterally dark brown. Tegula dark brown, apex light brown or whitish. Anterior two-thirds of fore wing pale ochreous with brown markings. Oblique brown band near base between costa and fold. Broader, more distinct band from basal third of costa to outer third of fold, darkest in fold; black dot at outer angle of band. Indistinct brown patches on costa at two-thirds and directly before apex. Black dot at end of cell. Posterior third of fore wing between fold and inner margin ochreous or light brown, without basal streak. Fringes light brown with dark brown base; outer dark band distinct below apex, fading towards tornus.

GENITALIA ♂ (Pl. 17, fig. 94). Costa clavate, approximately as long as sacculus, distinctly shorter than valva. Harpe short, rounded. Valva tapering, apex with short spine. Sacculus broad, fused with valva for most of its length. Saccus large. Aedeagus with bulbous base; apical two-thirds gently curved, tapering, apex pointed.

GENITALIA ♀ (Pl. 25, fig. 117). Apophysis anterior as long as eighth sternite. No sclerotized antrum. Posterior third of ductus bursae almost straight, weakly sclerotized; anterior two-thirds membranous, coiled. Corpus bursae with narrow band of minute spines across middle. Signum an elongate plate with pair of strong teeth.

REMARKS. *O. misma* is externally similar to *heluanensis* but the fore wing lacks the basal field which is often clearly separated in *heluanensis*. The fore wing fringes are fairly uniform in colour whereas in *heluanensis* they are usually disrupted by two or three light narrow longitudinal zones. The ♂ genitalia of *misma* are similar to those of *indica* but the apex of the costa is not conspicuously enlarged and the aedeagus has a longer and more pointed apex. Externally *indica* differs from *misma* by the presence of some groups of raised scales on the fore wing. The aedeagus of *misma* resembles that of *heligmatodes*; however, *heligmatodes* has a much narrower sacculus. In the ♀ genitalia the almost straight posterior portion of the ductus bursae resembles that of *pharaonis* but the signum and the longer apophysis anterior are distinct. *O. heligmatodes* with a similar signum has shorter apophyses anteriores and stronger signum teeth. In the only available ♀ of *misma* one signum tooth is much shorter than the other; however, this could be accidental.

BIOLOGY. Host-plant unknown. The type-specimens have been collected by Remane in June in association with other Lepidoptera species known to feed on *Tamarix*.

DISTRIBUTION. Sudan

MATERIAL EXAMINED.

Holotype ♂, SUDAN: NE. Sudan, Port Sudan, 23.vi.1962 (*Remane*) (genitalia slide no. 18 841; BMNH).

Paratype. SUDAN: 1 ♀, NE. Sudan, Port Sudan, 23.vi.1962 (*Remane*) (BMNH).

Ornativalka serratisignella Sattler, 1967

(Pl. 3, fig. 24; Pl. 17, fig. 95)

Ornativalka serratisignella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26** (3) : 60, pl. 12, fig. 59.

Holotype ♀, IRAQ: Baghdad, Abu-Ghraib, 30.ix.1958 (*Remane*) (genitalia slide no. 19 858; BMNH) [examined].

Ornativalka serratisignella Sattler, 1964 : 578. Nomen nudum.

♂, ♀. 5.0–7.0 mm. Head grey. Labial palpus grey, outer surface of second segment with some brown scales near base and before apex; third segment with dark ring below middle, apex dark. Antenna brown with paler rings above, whitish below. Thorax and tegula grey. Fore wing grey, between fold and inner margin lighter than between costa and fold; with indistinct brown markings. W-shaped marking at fold, dark dot at end of cell. Dark shadow between end of cell and outer transverse line extending to tornus. Outer transverse line indistinct, strongly angulate. Incomplete dark line along termen. Fringes grey, on termen and tornus suffused with pink.

GENITALIA ♂ (Pl. 17, fig. 95). Costa as long as valva, apex densely set with strong setae. Harpe short, rounded. Valva with short apical spine. Sacculus well separated from valva, at one-third approximately three times as wide as before apex. Aedeagus with big bulbous base, apical portion straight.

GENITALIA ♀. Sattler, 1967, pl. 12, fig. 59.

REMARKS. As the type-material was in poor condition the above description of external characters is made from fresh specimens. Some specimens show an indication of raised scales on the fore wing, where the fold is crossed by the dark W-markings and in the tornus.

The specimen from Iranshahr, listed below, was available to me at the time of the original description; however, it was accidentally omitted from the type-series.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in February, April, May and September in association with other Lepidoptera species known to feed on *Tamarix*.

DISTRIBUTION. Sudan; Iraq; Iran (Luristan, Báluchestan).

FURTHER MATERIAL EXAMINED.

IRAN: 1 ♂, 3 ♀, S. Iran, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 15.iv.1972, 26.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 6 ♀, [Luristan,] 22 km E. of Bandar-Abbas, 19. iv., 10.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 3 ♂,

11 ♀, [Luristan,] 30 km E. of Bandar-Abbas, 8.v.1974 (*Exp. Mus. Vind.*) (NM, Vienna; BMNH); 2 ♂, [Luristan,] 13 km NE. of Bandar-Abbas, 24.iv.1974 (*Exp. Mus. Vind.*) (NM, Vienna); 1 ♂, 2 ♀, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Exp. Mus. Vind.*) (NM, Vienna); 1 ♀, [Baluchestan,] Iranshahr, 800 m, 22.-30.iv.1954 (*Richter & Schäuuffele*) (SMN, Stuttgart) [first record for Iran].

***Ornativlva caecigena* (Meyrick, 1918)**

(Pl. 1, fig. 7; Pl. 18, fig. 96)

Gelechia caecigena Meyrick, 1918, *Exot. Microlepidopt.* 2 : 134. Holotype ♀, PAKISTAN: Peshawar, [Tarnab,] v. 1916 (*Fletcher*) (genitalia slide no. 8251, Clarke; BMNH) [examined].
Telphusa caecigena (Meyrick) Meyrick, 1925a : 70.
Telphusa caecigena (Meyrick); Gaede, 1937 : 122.
Ornativlva caecigena (Meyrick) Sattler, 1967 : 67, pl. 15, figs 69, 69a.
Telphusa caecigena (Meyrick); Clarke, 1969 : 431, pl. 215, figs 2-2c.

GENITALIA ♂ (Pl. 18, fig. 96). Costa almost as long as valva, basal two-thirds with nearly parallel margins, terminal third gently tapering, apex rounded. Harpe short. Valva tapering, with short terminal spine. Sacculus narrow, distally dilated, near apex approximately twice as wide as near base. Aedeagus with bulbous base, angulate at middle, apex blunt.

GENITALIA ♀. Sattler, 1967, pl. 15, figs 69, 69a.

REMARKS. The ♂ genitalia are very similar to those of other species of the *tamariciella*-group but differ by the sacculus which is much wider near the apex than at the base. They are also distinguished by the blunt apex of the aedeagus.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in March-May.

DISTRIBUTION. Saudi Arabia; Kuwait; S. Iran (Luristan); Pakistan.

FURTHER MATERIAL EXAMINED.

SAUDI ARABIA: 1 ♀, Riad, 16.ii.1960 (*Diehl*) (LN, Karlsruhe) [first record for Saudi Arabia]. KUWAIT: 1 ♂, 10.iii.1944 (*Wiltshire*) (BMNH) [first record for Kuwait]. IRAN: 2 ♂, 1 ♀, S. Iran, [Luristan,] 8 km E. of Bandar-Abbas, dunes, 8., 11.iv.1972 (*Exp. Mus. Vind.*) (NM, Vienna); 1 ♂, 1 ♀, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 2., 15.iv.1972 (*Exp. Mus. Vind.*) (NM, Vienna); 1 ♀, [Luristan,] 22 km E. of Bandar-Abbas, 10.v.1974 (*Exp. Mus. Vind.*) (NM, Vienna); 1 ♀, [Baluchestan,] Iranshahr, 800 m, 1.-10.iii.1954 (*Richter & Schäuuffele*) (SMN, Stuttgart) [first record for Iran]. PAKISTAN: 2 ♀, 150 km SW. of Quetta, 900 m, 13.v.1965 (*Kasy & Vartian*) (NM, Vienna; BMNH).

***Ornativlva macrosignella* Sattler, 1967**

Ornativlva macrosignella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* 26 (3) : 60, pl. 5, fig. 29, pl. 11, fig. 55. Holotype ♀, TUNISIA: Tozeur, vi. 1910 (*Lucas*) (genitalia slide no. 446b, Sattler; MNHN, Paris) [examined].

[*Teleia tamariciella* (Zeller); Rebel, 1912 : 90 (partim). Misidentification.]

[*Teleia tamariciella* (Zeller); Debski, 1913 : 110 (partim). Misidentification.]

[*Teteia heluanensis* Debski; Debski, 1913 : 111 (partim). Misidentification.]

[*Teleia tamaricalis* (Zeller); Amsel, 1933 : 125 (partim). Incorrect subsequent spelling of *tamariciella* Zeller. Misidentification.]

[*Teleia tamariciella* (Zeller); Amsel, 1935b : 263 (partim). Misidentification.]

GENITALIA ♂. Sattler, 1967, pl. 5, fig. 29.

GENITALIA ♀. Sattler, 1967, pl. 11, fig. 55.

BIOLOGY. Host-plants: *Tamarix tetragyna* Ehrenberg and *T. nilotica* (Ehrenberg) Bunge (moths bred by Debski). Larvae have been observed in April and December. Moths have been bred or taken by various collectors in February–July. As Debski (1913 : 111) was dealing with mixed material his description of the larva of '*heluanensis*' could apply to *macrosignella* (see also *heluanensis*, p. 102).

DISTRIBUTION. Algeria; Tunisia; Egypt; Sudan; Israel; S. Iran (Luristan).

FURTHER MATERIAL EXAMINED.

SUDAN: 2 ♂, 1 ♀, Ed Damer, Hudeiba, 1.–8.v.1962 (*Remane*) (ZSBS, Munich).
 IRAN: 2 ♂, S. Iran, [Luristan,] 30 km E. of Bandar-Abbas, 8.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna) [first record for Iran].

Ornativulva heligmatodes (Walsingham, 1904)

Gelechia heligmatodes Walsingham, 1904, *Entomologist's mon. Mag.* **40** : 267. LECTOTYPE ♂.

ALGERIA: El Kantara, 25.v.1903 (*Walsingham*) (BMNH), here designated [examined].

Teleia heligmatodes (Walsingham); Caradja, 1920 : 104.

Gelechia heligmatodes Walsingham; Meyrick, 1925a : 78.

Gelechia heligmatodes Walsingham; Gaede, 1937 : 177.

Ornativulva heligmatodes (Walsingham) Sattler, 1960 : 59.

Ornativulva heligmatodes (Walsingham); Sattler, 1967 : 62, pl. 5, fig. 30, pl. 12, fig. 56.

GENITALIA ♂. Sattler, 1967, pl. 5, fig. 30.

GENITALIA ♀. Sattler, 1967, pl. 12, fig. 56.

REMARKS. Walsingham described *heligmatodes* from four specimens, including 'type, ♂ (96 465); ♀ (89 225)'. The specimen bearing Walsingham's number 96 465 and referred to as the 'type ♂' on the specimen label and in the original description is here designated as the lectotype.

Caradja (1920 : 104) erroneously considered *heligmatodes* to be a desert form of *tamariciella*. Rebel (1907 : 93; 1931 : 123), followed by Meyrick (1925a : 78), recorded *heligmatodes* from Socotra; however, his material proved to be *antipyramis*.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in March–June and August.

DISTRIBUTION. Algeria; Tunisia.

Ornativulva species 5

(Pl. 18, fig. 97; Pl. 25, fig. 118)

♂, ♀. 4.5–5.0 mm. Head pale ochreous. Labial palpus whitish, outer surface of second segment with brown scales, particularly at base and before apex; third segment with irregular brown ring around middle and brown apex. Thorax and tegula pale ochreous with scattered

brown scales. Costal half of fore wing pale ochreous to grey. Light patch on costa before apex. Outer transverse line indistinct. W-shaped markings dark at fold. Black dots in middle and at end of cell. Posterior half of wing ochreous between fold and inner margin. Some dark scales on inner margin at base of wing, but no distinct basal streak.

GENITALIA ♂ (Pl. 18, fig. 97). Costa almost as long as valva, truncate, terminally almost twice as wide as basally. Harpe short, rounded. Apical portion of valva slender, with terminal spine. Sacculus shorter than costa and valva. Aedeagus with bulbous base; apical half straight, with parallel sides, not pointed.

GENITALIA ♀ (Pl. 25, fig. 118). Apophysis anterior half length of apophysis posterior. Narrow sclerotized plate below ostium bursae. No sclerotized antrum. Posterior portion of ductus bursae with zone of minute spines near junction of ductus seminalis. Signum a curved basal plate with pair of strong processes.

REMARKS. The ♂ genitalia resemble those of *macrosignella*, particularly the aedeagus; they differ by the slender apical portion of the valva. The ♀ genitalia are near those of *heligmatodes*, but differ by the signum. *O. heligmatodes* is also distinguished externally by the basal streak on the fore wing.

BIOLOGY. Host-plant unknown. Moths have been collected by Kasy in April and May in localities where *Tamarix* occurs.

DISTRIBUTION. S. Iran.

MATERIAL EXAMINED.

IRAN: 1 ♂, 5 ♀, S. Iran, [Luristan,] 22 km N. of Bandar-Abbas, 18., 22.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 1 ♀, [Baluchestan,] 100 km W. of Zahedan ('Sahidan'), 11.v.1965 (*Kasy & Vartian*) (NM, Vienna).

Ornativalka tamariciella (Zeller, 1850)

(Text-fig. 7)

Gelechia tamariciella Zeller, 1850, *Stettin. ent. Ztg* 11 : 153. Lectotype ♀, ITALY: Livorno, v. 1846 (*Mann*) (genitalia slide no. 6061; BMNH), designated by Sattler (1967 : 88) [examined].

Gelechia tamariciella Zeller; Herrich-Schäffer, 1854 : 167, pl. 75, fig. 567.

Gelechia tamariciella Zeller; Wocke, 1861 : 114.

Gelechia tamariciella Zeller; Stainton, 1867 : 20.

Gelechia tamariciella Zeller; Stainton, 1869 : 80.

Teleia tamariciella (Zeller); Wocke, 1871 : 295.

Telcia tamariciella (Zeller); Mann, 1873 : 128. Incorrect subsequent spelling of *Teleia* Heinemann.

Teleja tamariciella (Zeller); Curò & Turati, 1882 : 43. Incorrect subsequent spelling of *Teleia* Heinemann.

Teleia tamariciella (Zeller); Constant, 1892 : 67 (partim).

Teleia tamariciella (Zeller); Rebel, 1901 : 150 (partim).

Gelechia tamariciella Zeller; Meyrick, 1925a : 78 (partim).

Gelechia tamariciella Zeller; Gaede, 1937 : 217 (partim).

Ornativalka tamariciella (Zeller) Sattler, 1960 : 59.

Ornativalka tamariciella (Zeller); Sattler, 1967 : 63, 88, pl. 6, fig. 31, pl. 12, fig. 57.

Ornativalka tamariciella (Zeller); Zocchi, 1971 : 60, fig. vii.

GENITALIA ♂. Sattler, 1967, pl. 6, fig. 31.

GENITALIA ♀. Sattler, 1967, pl. 12, fig. 57.

REMARKS. The name *tamariciella* has been erroneously attributed to Mann by various authors. Although the name originated from Mann it was made nomenclaturally available by Zeller.

Between 1850 and 1967 the name *tamariciella* was recorded in approximately 40 publications. All of those records were either based directly or indirectly on the specimens which Mann collected in 1846 and 1872 or they were misidentifications.

Several authors have erroneously recorded *tamariciella* from Portugal, Spain, France, Malta, Algeria, Tunisia, Egypt, Israel, Saudi Arabia, Iran and India. Re-examination of most of the material on which those records were based has revealed the following misidentifications: Portugal, Spain, France – *pseudotamariciella*; Malta, Algeria, Iran – *heluanensis*; Egypt, Israel – *heluanensis*, *macrosignella*; India – *indica*. Records for 'Syria' are directly or indirectly attributable to Kalchberg (1898 : 190), who recorded *tamariciella* from Haifa [Israel]. Kalchberg's specimens have not been traced. The records for Tunisia and Saudi Arabia could not be checked but probably apply to *heluanensis*. Records for S. Italy and Sicily are doubtful and must be checked. The record for Piemonte (Mariani, 1943 : 166) might apply to *tamariciella* or *pseudotamariciella*.

BIOLOGY. Host-plants: *Tamarix* species (moths bred by Amsel); *T. gallica* Linnaeus (Zocchi, 1971 : 61).

Nothing is known about the larva and its habits. Mann observed the moths in May 1846; they were uncommon on *Tamarix* trees, flying before and after sunset when mating also took place (Zeller, 1850 : 153). Moths have been bred by Amsel in June 1930.

DISTRIBUTION. Italy (Toscana); Yugoslavia (Dalmatia).

Ornativava pseudotamariciella Sattler, 1967

Ornativava pseudotamariciella Sattler, 1967, *Beitr. naturk. Forsch. Südwdl.* **26** (3) : 65, pl. 6, fig. 32, pl. 12, fig. 58. Holotype ♀, FRANCE: Alpes-Maritimes (? *Constant*) (genitalia slide no. 364; ZSBS, Munich) [examined].

[*Teleia tamariciella* (Zeller); Millière, 1876a : 330. Misidentification.]

[*Teleia tamariciella* (Zeller); Stainton, 1881 : 247. Misidentification.]

[*Teleia tamariciella* (Zeller); Constant, 1892 : 67. Misidentification.]

Ornativava pseudotamariciella Sattler; Agenjo, 1968 : [5].

GENITALIA ♂. Sattler, 1967, pl. 6, fig. 32.

GENITALIA ♀. Sattler, 1967, pl. 12, fig. 58.

REMARKS. All records of *tamariciella* from Spain and S. France are probably referable to *pseudotamariciella*.

BIOLOGY. Host-plants: *Tamarix* species (moth bred by Constant); *T. gallica* Linnaeus (Millière, 1876a : 330); *T. africana* Poiret (Constant, 1892 : 67).

According to Millière (1876a : 330) the larva feeds in June and again in September on the leaves and flowers of its host-plant. Moths have been bred or taken by various collectors in May–July and September.

DISTRIBUTION. Portugal (Algarve); Spain (Cataluña, Murcia, Andalucía); France (Loire-Atlantique, Alpes-Maritimes).

FURTHER MATERIAL EXAMINED.

PORTUGAL: 1 ♂, Algarve, 17.v.1880 (*Eaton*) (BMNH) [first record for Portugal].
 SPAIN: 1 ♂, Cataluña, Rosas, salt marshes, 20 m, 14.vi.1964 (*Glaser*) (coll. Glaser, Vienna); 1 ♀, Prov. Murcia, Alhama de Murcia, 19.-20.ix.1974 (*Glaser*) (coll. Glaser, Vienna).

Ornativalva kalahariensis (Janse, 1960)

(Text-figs 9, 18-20)

Pelostola kalahariensis Janse, 1960, *Moths S. Afr.* 6 : 189, pl. 78, fig. e, pl. 98, fig. b, pl. 99, figs, pl. 116, fig. f, pl. 117, figs f, h, i. Holotype ♂, SOUTH AFRICA: SW. Kalahari, Auob, iv. 1933 (*van Son*) (genitalia slide no. 5800, Janse; TM, Pretoria) [examined].

Stegasta species; Janse, 1949, pl. 31, fig. 1.

Ornativalva kalahariensis (Janse) Sattler, 1967 : 67, pl. 16, fig. 71, pl. 18, fig. 75.

GENITALIA ♂ (Text-figs 18-20). Sattler, 1967, pl. 18, fig. 75.

GENITALIA ♀. Sattler, 1967, pl. 16, fig. 71.

REMARKS. The genitalia of the holotype ♂ were illustrated by Janse (1960, pl. 78, fig. e) and Sattler (1967, pl. 18, fig. 75, erroneously marked as paratype). Some variation is found in the ♂ genitalia, particularly in the shape of costa and sacculus. In the holotype ♂ the right valva (Text-fig. 19) is wider than the left (Text-fig. 18), although part of the apparent difference may be due to the different position in the slide.

BIOLOGY. Host-plant unknown. The specimens collected by the BMNH Southern African Expedition were all taken in localities where *Tamarix usneoides* E. Meyer ex Bunge occurs (records of members of the expedition). Moths have been collected in January (BMNH Sth. Afr. Exped.), April and November (G. van Son).

DISTRIBUTION. South Africa; South West Africa.

FURTHER MATERIAL EXAMINED.

SOUTH WEST AFRICA: 5 ♂, 3 ♀, Homeb, 10 mls ESE. Gobabeb, at light, 23.-25.i.1972 (*BMNH Sth. Afr. Exped.*, no. 23) (BMNH); 3 ♂, Swakopmund, at light, 26.-30.i.1972 (*BMNH Sth. Afr. Exped.*, no. 25) (BMNH); 6 ♂, Kahn River, 5 mls N. Usakos, at light, 30.-31.i.1972 (*BMNH Sth. Afr. Exped.*, no. 29) (BMNH) [first record for South West Africa].

THE *PLUTELLIFORMIS*-GROUP

(Pl. 5, figs 33-35; Text-fig. 10)

Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2). Fore wing with or without basal streak on inner margin. Frenulum of ♀ triple. In ♂ genitalia uncus reduced; costa, valva and harpe present. Sacculus

long, narrow, separated from valva. Anellus lobes weakly sclerotized. In ♀ genitalia posterior margin of eighth tergite with irregular row of long setae. Apophysis posterior short. Sclerotized antrum short. Signum with pair of strong spines or transverse tooth-like ridges, single or divided into two parts.

BIOLOGY. Several species have been bred on *Tamarix*.

Ornativulva triangulella Sattler, 1967

Ornativulva triangulella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26** (3) : 68, pl. 6, fig. 33, pl. 13, figs 60, 60a. Holotype ♀, ALGERIA: Biskra, 6.iv.1907 (*Chrétien*) (genitalia slide no. 390c, Sattler; MNHN, Paris) [examined].

[*Gelechia plutelliformis* Staudinger; Amsel, 1955b : 126. Misidentification.]

GENITALIA ♂. Sattler, 1967, pl. 6, fig. 33.

GENITALIA ♀. Sattler, 1967, pl. 13, figs 60, 60a.

REMARKS. The holotype ♀ from the Chrétien coll. was labelled '*plutellif.* ? v. *auctella*' in Chrétien's handwriting. The name *auctella* is a nomen nudum. It originated from Chrétien and was introduced into the literature by Turati (1927 : 338) without becoming nomenclaturally available. Specimens in coll. Turati under the name *auctella* are *antipyramis* and *plutelliformis*.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in March–May and October.

DISTRIBUTION. Algeria; Tunisia; Kuwait; Iraq; SE. Iran (Baluchestan); Afghanistan.

FURTHER MATERIAL EXAMINED.

KUWAIT: 1 ♀, 30.iv.1943 (*Wiltshire*) (BMNH) [first record for Kuwait]. IRAN: 1 ♂, SE. Iran, [Baluchestan,] 100 km W. of Zahedan ('Sahidan'), 1150 m, 11.v.1965 (*Kasy & Vartian*) (BMNH) [first record for Iran].

Ornativulva antipyramis (Meyrick, 1925)

Gelechia antipyramis Meyrick, 1925b, *Bull. Soc. ent. Egypte* **9** : 209. Lectotype ♂, EGYPT: Ballah, vii. 1916 (*Buxton*) (genitalia slide no. 6144; BMNH), designated by Sattler (1967 : 87) [examined].

[*Teleia heligmatodes* (Walsingham) Rebel, 1907 : 93. Misidentification.]

[*Gelechia heligmatodes* Walsingham; Meyrick, 1925a : 78 (partim). Misidentification.]

[*Teleja haligmatodes auctella* Turati, 1927 : 338 (partim). Nomen nudum. Incorrect subsequent spellings of *Teleia* Heinemann and *heligmatodes* Walsingham. Misidentification.]

[*Teleia heligmatodes* (Walsingham); Rebel, 1931 : 123. Misidentification.]

Gelechia antipyramis Meyrick; Gaede, 1937 : 147.

[*Gelechia lacertella* Walsingham; Amsel, 1958 : 80, text-fig. 11. Misidentification.]

Ornativulva antipyramis (Meyrick) Sattler, 1964 : 578.

Ornativulva antipyramis (Meyrick); Amsel, 1966 : 128.

Ornativulva antipyramis (Meyrick); Sattler, 1967 : 70, 87, pl. 6, fig. 34, pl. 13, fig. 61.

Ornativulva antipyramis (Meyrick); Amsel, 1968 : 17.

GENITALIA ♂. Sattler, 1967, pl. 6, fig. 34.

GENITALIA ♀. Sattler, 1967, pl. 13, fig. 61.

REMARKS. The name *auctella* (nomen nudum) originated from Chrétien. Turati (1927 : 338) recorded four specimens, Cyrenaica: Giarabub, vii. 1926 (*Krüger*), which according to him agreed with a specimen from Biskra, identified as *auctella* by Chrétien. Two of those specimens, though not the one from Biskra, are now preserved in coll. Turati (IE, Bolzano). A ♂ without hind wings and abdomen is clearly *plutelliformis*, whereas a ♀ without abdomen is *antipyramis*; an '*auctella*' specimen in coll. Chrétien is *triangulella*.

BIOLOGY. Host-plant: *Tamarix* species. A ♀ (locality and collector unknown) in MNHN, Paris, is labelled '*Tamarix*, x.-xi.1908, écl. 13.v.1909'. Moths have been taken by various collectors in February-July and October.

DISTRIBUTION. Cape Verde Islands (St Vincent); Canary Islands (Gran Canaria); Morocco; Algeria; Tunisia; Libya; Egypt; Sudan; Socotra; Jordan; Saudi Arabia; United Arab Emirates; S. Iran (Luristan); Pakistan.

FURTHER MATERIAL EXAMINED.

LIBYA: 1 ♀, Cyrenaica, vii. 1926 (*Krüger*) (IE, Bolzano). JORDAN: 1 ♂, Azraq ed Druz, pumping station, 22.iv.-9.v.1966 (*Fletcher*) (BMNH); 5 ♂, 4 ♀, Wadi er Ratam, 24.iv.-10.v.1966 (*Fletcher*) (BMNH) [first record for Jordan]. UNITED ARAB EMIRATES: 1 ♀, Masafi, 22.-24.ii.1971 (*Gallagher*) (BMNH) [first record for United Arab Emirates]. IRAN: 1 ♀, S. Iran, [Luristan,] 8 km E. of Bandar-Abbas, 23.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 7 ♂, 9 ♀, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 2.-15.iv.1972, 21.iv.-17.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 1 ♂, 1 ♀, [Luristan,] 22 km E. of Bandar-Abbas, 19.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 4 ♂, 6 ♀, [Luristan,] 30 km E. of Bandar-Abbas, 3.iv.1970, 8.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 2 ♀, [Luristan,] 22 km N. of Bandar-Abbas, 4., 14.iv.1972 (*Exped. Mus. Vind.*) (NM, Vienna); 2 ♂, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna) [first record for Iran].

Ornativulva singula Sattler, 1967

(Pl. 3, fig. 25; Pl. 18, fig. 98; Pl. 26, fig. 119; Text-figs 21, 25)

Ornativulva singula Sattler, 1967, *Beitr. naturk. Forsch. Südwdtl.* **26** (3) : 71, pl. 7, fig. 35.

Holotype ♂, AFGHANISTAN: Herat, 970 m, 5.v.1956 (*Amsel*) (genitalia slide no. 352a, Sattler; LN, Karlsruhe) [examined].

GENITALIA ♂ (Pl. 18, fig. 98; Text-fig. 21).

GENITALIA ♀ (Pl. 26, fig. 119; Text-fig. 25). Posterior margin of seventh sternite with pair of projections (Text-fig. 25). Sternopleural region of eighth segment with pair of minutely spined longitudinal folds. Apophyses anteriores short, bases connected by narrow sclerotization along anterior margin of eighth sternite. Sclerotized antrum very short, tubular. Ductus bursae coiled, approximately three times length of apophysis posterior. Corpus bursae globular. Signum with pair of strong spines; basal plates weakly sclerotized, connected by weakly sclerotized bridge.

REMARKS. In the ♂ genitalia of specimens from Mongolia the harpe is more digitate than in the holotype from Afghanistan (Text-fig. 21). The ♀ genitalia differ from those of other species by the pair of posterior processes on the seventh sternite (Text-fig. 25) and the pair of spined folds on the eighth sternite.

BIOLOGY. Host-plant unknown. The Mongolian specimens have been collected at light in localities where *Tamarix* occurs (Kaszab, 1968 : 22, 23). Moths have been collected by Amsel and Kaszab in May and June.

DISTRIBUTION. Afghanistan; Mongolia.

FURTHER MATERIAL EXAMINED.

MONGOLIA: 10 ♂, 10 ♀, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (TM, Budapest; BMNH); 2 ♂, 4 ♀, Bajanchongor aimak, spring Talyn Bilgech bulag, 47 km E. of borderpost Caganbulag, 1200 m, 23.vi.1967 (Kaszab, no. 840) (TM, Budapest) [first record for Mongolia].

Ornativulva basistriga sp. n.

(Pl. 1, fig. 8; Pl. 3, figs 26, 27; Pl. 19, fig. 99; Pl. 26, fig. 120)

♂, ♀. 6.5–8.0 mm. Head grey. Labial palpus grey, outer surface of second segment mixed with brown scales; basal half and apex of third segment brown. Thorax grey. Fore wing grey, between fold and inner margin ochreous, lighter grey along costa. W-shaped markings darkest along fold. Dark dot at end of cell with short dark streak which extends towards apex. Base of fringes with dark markings, particularly distinct along termen. Distinct dark basal streak on inner margin.

GENITALIA ♂ (Pl. 19, fig. 99). Costa slender, clavate, as long as sacculus, distinctly shorter than valva. Harpe slender, clavate, reaching dilated apical portion of costa. Valva long, distal half narrow with parallel margins, apex with short spine. Sacculus narrow, distally dilated. Aedeagus with bulbous base, apical two-thirds slender, curved, pointed.

GENITALIA ♀ (Pl. 26, fig. 120). Apophyses anteriores distally somewhat dilated, bases connected by narrow sclerotization along anterior margin of eighth sternite. No sclerotized antrum. Ductus bursae narrow, coiled, approximately twice length of apophysis posterior. Signum with pair of strong teeth; basal plates connected by indistinct, weakly sclerotized bridge.

REMARKS. An albinistic ♀ (Pl. 3, fig. 27) is almost completely white with only a few dark markings along the fold, between the end of the cell and the apex, on the base of the fringes on apex and termen, and on the inner margin near the base.

Externally *basistriga* is similar to *plutelliformis* and *grisea* but differs by the distinct basal streak on the inner margin of the fore wing. *O. singula*, which also has a basal streak, is much smaller. The ♂ genitalia of *basistriga* differ from those of all other species of the *plutelliformis*-group by the distally dilated sacculus. The ♀ genitalia differ from those of *singula*, *plutelliformis* and *sieversi* by the strong teeth – not spines – of the signum. The similar signum of *grisea* is divided, whereas in *basistriga* the basal plates are connected by a sclerotized bridge. However, as the sclerotization is indistinct and weak, it is possible that in a larger material *basistriga* specimens with two separate signa will be found. Equally, *grisea* specimens with a sclerotized bridge between the basal plates of the signum may be expected.

BIOLOGY. Host-plant unknown. Most of the type-specimens have been collected at light in localities where *Tamarix* occurs (Kaszab, 1966 : 597; 1968 : 18, 22, 31). Moths have been collected by Kaszab in June and July.

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: Chovd aimak, 10 km SSW. of Somon Bulgan, 1200 m, 5.vii.1966 (*Kaszab*, no. 633) (TM, Budapest).

Paratypes. MONGOLIA: 1 ♂, 1 ♀, Chovd aimak, 10 km SSW. of Somon Bulgan, 1200 m, 4.-6., 5.vii.1966 (*Kaszab*, nos 632, 633) (TM, Budapest; BMNH); 1 ♀, South Gobi aimak, SW. edge of salt lake Dund gol ('old' Somon Gurban-tes), 1300 m, 18.vi.1967 (*Kaszab*, no. 817) (TM, Budapest); 1 ♂, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (*Kaszab*, no. 834) (TM, Budapest); 1 ♀, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (*Kaszab*, no. 882) (BMNH).

Ornativalva plutelliformis (Staudinger, 1859)

(Pl. 5, figs 33-35; Text-fig. 10)

Gelechia plutelliformis Staudinger, 1859, *Stettin. ent. Ztg* **20** : 239. Lectotype ♀, SPAIN: Cadiz, Chiclana, bred on *Tamarix*, 25.vi.1858 (*Staudinger*) (genitalia slide no. 155b, Sattler; MNHU, Berlin), designated by Sattler (1967 : 88) [examined].

Alucita olbiaella Millière, 1861, *Iconogr. Descr. Chenilles Lépid. inédits* **1** : 193, 218, (liv. 4) pl. 1, figs 1-6. LECTOTYPE ♀, FRANCE: Provence (*Millière*) (genitalia slide no. 382c, Sattler; MNHN, Paris), here designated [examined]. [Synonymized by Stainton, 1867 : 14.]

Alucita olbienella Millière; Wocke, 1861 : 191. Incorrect subsequent spelling of *olbiaella* Millière.

Hypsolophus siewersiellus Christoph, 1867, *Stettin. ent. Ztg* **28** : 239. Syntypes, U.S.S.R.: S. Russia, Krasnoarmeysk ('Sarepta') (*Christoph*) (depository unknown). [Synonymized by Wocke, 1871 : 290.]

Gelechia plutelliformis Staudinger; Stainton, 1867 : 14.

Gelechia plutelliformis Staudinger; Wocke, 1871 : 290.

Gelechia plutelliformis Staudinger; Christoph, 1885 : 158.

Gelechia sinuatella Walsingham, 1904, *Entomologist's mon. Mag.* **40** : 223. LECTOTYPE ♂, ALGERIA: Biskra, 9.iii.1895 (*Eaton*) (BMNH), here designated [examined]. [Synonymized by Sattler, 1967 : 72.]

Gelechia plutelliformis Staudinger; Powell, 1905 : 164.

Gelechia plutelliformis Staudinger; Walsingham, 1908 : 938.

Gelechia plutelliformis Staudinger; Chrétien, 1917 : 469.

Gelechia sinuatella Walsingham; Caradja, 1920 : 98.

Gelechia sinuatella Walsingham; Meyrick, 1925a : 79.

Gelechia plutelliformis Staudinger; Meyrick, 1925a : 79.

[*Teleja haligmatodes auctella* Turati, 1927 : 338 (partim). Nomen nudum. Incorrect subsequent spellings of *Teleia* Heinemann and *heligmatodes* Walsingham. Misidentification.]

Gelechia plutelliformis Staudinger; Gaede, 1937 : 203.

Gelechia sinuatella Walsingham; Gaede, 1937 : 213.

Ornativalva plutelliformis (Staudinger) Gozmány, 1955 : 311, text-figs 11, 12.

Ornativalva plutelliformis (Staudinger); Sattler, 1960 : 59, pl. 17, fig. 72, pl. 30, fig. 134.

Ornativalva plutelliformis (Staudinger); Kasy, 1962 : 76.

Ornativulva plutelliformis (Staudinger); Sattler, 1967 : 72, 88, pl. 1, figs 3, 4, pl. 7, fig. 36, pl. 13, fig. 62.

Ornativulva plutelliformis (Staudinger); Zocchi, 1971 : 61.

Head (Pl. 5, figs 33–35).

GENITALIA ♂. Sattler, 1967, pl. 7, fig. 36.

GENITALIA ♀. Sattler, 1967, pl. 13, fig. 62.

REMARKS. *G. plutelliformis* Staudinger was described from 2 ♀ which Staudinger bred at the end of June 1858, from larvae collected on *Tamarix* near Chiclana. Both specimens are now preserved in coll. Staudinger (MNHU, Berlin).

A. olbiaella Millière was described from an unspecified number of specimens which Millière bred on *Tamarix gallica* Linnaeus or collected as adults in S. France: Provence, Toulon and Hyères area. The lectotype ♀ bears the label '*Alucita Olbiaella* Mill. sp. nov.' but no further data.

H. sieversiellus Christoph was described from an unspecified number of specimens which Christoph bred on *Tamarix laxa* Willdenow or collected as adults near Sarepta. No type-material has been traced. The synonymy of *siewersiellus* was discussed in detail by Walsingham (1908 : 938).

G. sinuatella Walsingham was described from eleven specimens of both sexes, including 'type, ♂ (8298); ♀ (96 594)'. The specimen bearing Walsingham's number 8298 and referred to as 'type ♂' in the original description and on the specimen label is here designated as the lectotype. The specimen labelled 'type ♀' bears Walsingham's number 96 589, whereas the specimen referred to as 'type ♀ (96 594)' in the original description is labelled 'paratype 8/9'. Ten of the eleven original specimens are now preserved in BMNH.

A ♂ from Italy: Calabria has a short dark basal streak on the inner margin of the fore wing. The absence of the basal streak usually distinguishes *plutelliformis* from some other similar species.

For a discussion of *auctella* (nomen nudum) see *triangulella* (p. 128) and *antipyramis* (p. 129).

O. plutelliformis, one of the commonest and most widespread *Ornativulva* species, is recorded in more than 60 publications.

BIOLOGY. Host-plants: *Tamarix gallica* Linnaeus (Millière, 1861 : 193); *T. laxa* Willdenow (recorded by Christoph, 1867 : 239, as *T. laxa* and *pallasii*. *T. pallasii* Desvaux is currently considered to be a synonym of *T. laxa*.); *T. canariensis* Willdenow or *T. africana* Poiret (recorded by Walsingham, 1908 : 938, as *T. gallica* which does not occur in the Canary Islands); *T. parviflora* de Candolle (Kasy, 1962 : 76); unspecified species of *Tamarix* (moths bred by Staudinger, Lucas, Kasy and Gerling). One specimen in MNHN, Paris, bears the label '*Rhus oxyacanthae*'; however, it is unlikely that *Rhus* is a host-plant of *plutelliformis*.

As far as can be seen from the literature (Staudinger, 1859 : 239; Millière, 1861 : 193; Christoph, 1867 : 239; 1885 : 158; Powell, 1905 : 164; Walsingham, 1908 : 938; Chrétien, 1917 : 469; Kasy, 1962 : 76; Zocchi, 1971 : 61) the larva lives free on *Tamarix* species. It has been described as varying in colour from dark green to reddish and brown. Larva and pupa have been illustrated in colour by Millière

(1861, liv. 4, pl. 1, figs 1-3). Pupation takes place in or on the ground in a light cocoon that is covered with small particles of soil. Hibernation probably takes place in the pupal stage. Millière concluded from his observations of larvae and adults that *plutelliformis* is probably single-brooded in southern France; however, Powell observed larvae in the same area in June as well as August and September. There may be one or two clearly defined generations in southern Europe whereas *plutelliformis* probably breeds continually where the climatic conditions are suitable. Larvae have been observed by the above authors in May and June (Turkmeniya), June, August and September (S. France), October and November (Tunisia), December and January (Canary Islands). Moths have been collected through all months of the year. Dates of capture in North Africa range from February till August.

DISTRIBUTION. Spain; S. France; Italy; Yugoslavia; Hungary; Rumania; Turkey; Cyprus; U.S.S.R. (S. Russia); Madeira (Madeira, Porto Santo); Canary Islands (Tenerife, Gran Canaria); Morocco; Algeria; Tunisia; Libya; Egypt (Sinai); Sudan; Israel; Jordan; Lebanon; Syria; Saudi Arabia; Iraq; Iran; Afghanistan; Pakistan. According to the literature also found in U.S.S.R. (Turkmeniya) (Christoph, 1885 : 158). The record for Kuwait (Amsel, 1955b : 126) is erroneous and applies to *triangulella* (see p. 128). No records are available for Portugal, Albania, Greece and Bulgaria, although *plutelliformis* must occur there.

FURTHER MATERIAL EXAMINED.

ITALY: 1 ♂, Calabria, Marcellina (Cosenza), 20.ix.1971 (*Pelham-Clinton*) (RSM, Edinburgh); 1 ♀, Calabria, Gizzeria Lido, 1.-15.v.1971 (*de Medina Alberich*) (BMNH); 1 ♂, [Sicily,] Licata, viii. 1906 (*Re*) (BMNH). **RUMANIA:** 1 ♀, [Dobrogea,] Vasile-Roaita, 18.vii.1947 (*Popescu-Gorj*) (MINGA, Bucharest); 1 ♂, [Dobrogea,] Sfintu Gheorghe delta, 12.viii.1971 (*Popescu-Gorj*) (MINGA, Bucharest); 2 ♀, [Dobrogea,] Eforie Sud, 9.vii.1947, 24.viii.1948 (*Popescu-Gorj*) (MINGA, Bucharest). **TURKEY:** 1 ♂, 2 ♀, 40 km SW. of Elazig, 900 m, 18.vi.1969 (*Kasy*) (NM, Vienna); 2 ♂, Eceabat, *Tamarix*, moths emerged 25.viii.1972 (Gerling) (TAU, Tel-Aviv). **CYPRUS:** 1 ♂, 1 ♀, Skylloura, 8.ix.1967 (*Zahradnik*) (NM, Prague) [first record for Cyprus]. **LIBYA:** 1 ♂, Cyrenaica, vii. 1926 (*Krüger*) (IE, Bolzano). **EGYPT:** 1 ♂, [Sinai,] Wadi Feiran ('Wadi Feran'), 4.iii.1935 (collector unknown) (BMNH). **ISRAEL:** 1 ♂, Tel-Aviv, 24.ix.1971 (*Kugler*) (TAU, Tel-Aviv); 1 ♂, Ein el Turaba, larva on *Tamarix*, moth emerged 28. ix. (collector unknown) (TAU, Tel-Aviv). **AFGHANISTAN:** 2 ♂, Ghorband valley, N. of Kabul, 1900 m, 30.vii.1965 (*Kasy & Vartian*) (NM, Vienna).

***Ornativalka grisea* Sattler, 1967**

Ornativalka grisea Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* 26 (3) : 73, pl. 7, fig. 37, pl. 14, fig. 63. Holotype ♂, AFGHANISTAN: N. Afghanistan, Polichomri, 700 m, 5.vi.1956 (*Amsel*) (genitalia slide no. 294b, Sattler; LN, Karlsruhe) [examined].

GENITALIA ♂. Sattler, 1967, pl. 7, fig. 37.

GENITALIA ♀. Sattler, 1967, pl. 14, fig. 63.

BIOLOGY. Host-plant unknown. Moths have been collected in May-July.

DISTRIBUTION. Afghanistan.

Ornativálva species 6

(Pl. 19, fig. 100; Pl. 26, fig. 121)

GENITALIA ♂ (Pl. 19, fig. 100). Costa slender, distally somewhat dilated, as long as sacculus. Harpe digitate, slightly shorter than costa. Valva longer than costa, pointed. Sacculus narrow, shorter than valva, distal third not fused with valva, rounded. Aedeagus with bulbous base, tapered, apical third curved.

GENITALIA ♀ (Pl. 26, fig. 121). Lateral area of fine wrinkles on eighth segment marked off by curved fold. Apophysis anterior rod-like, distally slightly dilated. Antrum one-half length of apophysis anterior, posterior margin triangularly extended. Signum a pair of strong teeth, basal plates connected by narrow, indistinct, sclerotized bridge. Teeth of signum with dentate margin.

REMARKS. The moths are externally similar to *plutelliformis* and *grisea*. The ♂ genitalia agree with those of *grisea* but the harpe appears to be longer. The ♀ genitalia are unusual for the *plutelliformis*-group and resemble more those of the *erubescens*-group.

The males and females were collected in different localities and, although they agree well externally, their association must still be considered as doubtful.

BIOLOGY. Host-plant unknown. The moths have been collected by Kaszab in June in localities where *Tamarix* occurs (Kaszab, 1966 : 591; 1968 : 22).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

MONGOLIA: 2 ♂, South Gobi aimak, 100 km W. of borderpost Ovot Chuural, 1250 m, 22.vi.1967 (Kaszab, no. 834) (TM, Budapest; BMNH); 1 ♀, Gobi Altaj aimak, Zachuj Gobi, 10 km N. of Chatan chajrchan mountains, 1150 m, 27.vi.1966 (Kaszab, no. 594) (TM, Budapest).

Ornativálva sieversi (Staudinger, 1871)

Gelechia sieversi Staudinger, 1871, *Berl. ent. Z.* **14** : 309. Lectotype ♂, U.S.S.R.: S. Russia, Krasnoarmeysk ('Sarepta') (*Christoph*) (MNHU, Berlin), designated by Sattler (1967 : 88) [examined].

Gelechia sieversi Staudinger; Wocke, 1871 : 290.

Gelechia sieversi Staudinger; Christoph, 1887 : 120.

Gelechia plutelliformis Staudinger ab. *sieversi* Staudinger; Rebel, 1901 : 144.

Gelechia sieversi Staudinger; Walsingham, 1908 : 938.

Gelechia sieversi Staudinger; Caradja, 1920 : 98.

Gelechia sieversi Staudinger; Meyrick, 1925a : 79.

Gelechia sieversi Staudinger; Gaede, 1937 : 212.

Ornativálva sieversi (Staudinger) Sattler, 1960 : 59, pl. 17, fig. 73, pl. 30, fig. 135.

Ornativálva sieversi (Staudinger); Sattler, 1967 : 75, 88, pl. 2, fig. 11, pl. 7, fig. 38, pl. 14, fig. 64.

GENITALIA ♂. Sattler, 1967, pl. 7, fig. 38.

GENITALIA ♀. Sattler, 1967, pl. 30, fig. 135.

REMARKS. The date of publication is generally cited as 1870; however, according to the original wrapper of 'Drittes und viertes Vierteljahrsheft', pages 209-432 were issued in January 1871.

BIOLOGY. Host-plant: (?) *Tamarix*. Staudinger stated in the original description that Christoph bred this species on *Tamarix* '... if I am not mistaken ...'. A moth has been collected by Kasy and Vartian in July. Various dates on old specimens are unreliable as they often refer to the month in which a specimen was received from the collector rather than the date of capture.

DISTRIBUTION. U.S.S.R. (S. Russia); Iran (Tehran); Afghanistan. According to the literature also found in U.S.S.R. (Turkmeniya) (Christoph, 1887 : 120).

FURTHER MATERIAL EXAMINED.

AFGHANISTAN: 1 ♂, Ghorband Valley (N. of Kabul), 1900 m, 30.vii.1965 (*Kasy & Vartian*) (NM, Vienna) [first record for Afghanistan].

THE *CEROSTOMATELLA*-GROUP

(Text-figs 11, 12)

Head with enlarged scale bases or distinct frontal process. Metascutum with paired group of short broad scales (Text-fig. 1). Fore wing in some species deviating from typical *Ornativalva* pattern; inner margin without basal streak. Frenulum of ♀ double or triple. In ♂ genitalia of most species uncus developed, deeply divided. Costa, harpe and valva present, sacculus not separated from valva. Anellus lobes modified in some species. In ♀ genitalia posterior margin of eighth tergite densely set with scales. Apophysis anterior short, wide, not rod-like; bases of apophyses connected by narrow sclerotization along anterior margin of eighth sternite. No modified ostium bursae. Antrum a small sclerotized ring or absent. Signum with pair of transverse folds or ridges.

REMARKS. *O. acutivalva* sp. n. is placed in the *cerostomatella*-group mainly on account of the presence of scales – not setae – on the eighth tergite of the ♀ and the absence of a separate sacculus in the ♂. It differs from all other species of this group by the absence of modified head structures and by the long hair-like scales on the metascutum.

BIOLOGY. The host-plants of all species in the *cerostomatella*-group are still unknown; however, some of the species have been collected as adults in localities where *Tamarix* occurs or in association with other Lepidoptera species known to feed on *Tamarix*.

Ornativalva mixolitha (Meyrick, 1918)

(Pl. 1, fig. 9; Pl. 4, fig. 28; Pl. 8, figs 51–56; Pl. 27, fig. 122; Text-fig. 12)

Phthorimaea mixolitha Meyrick, 1918 : 135.

Head (Pl. 8, figs 51–56) with frontal modifications variable, enlarged scale bases more or less regularly distributed over frons and part of vertex. Sometimes weak or strong frontal process developed.

GENITALIA ♂. Clarke, 1969, pl. 153, figs 2a–b; Sattler, 1967, pl. 8, fig. 40.

GENITALIA ♀ (Pl. 27, fig. 122).

REMARKS. The North African subspecies *bipunctella* differs from typical *mixolitha* by the ochreous – not grey – colour of the fore wing. No differences are found in the genitalia.

The frenulum of the ♀ is double. The ♀ genitalia do not differ from those of *cerostomatella*, *angulatella* and *mongolica*.

BIOLOGY. Host-plant unknown. The moths are usually collected in association with other *Ornativalka* species and it seems likely that the larva feeds on *Tamarix*. Moths have been taken by various collectors in February–October.

DISTRIBUTION. Morocco; Algeria; Tunisia; U.S.S.R. (S. Russia); Turkey; Sudan; Iraq; Iran; Afghanistan; Pakistan; India (Bihar); Mongolia.

Ornativalka mixolitha mixolitha (Meyrick, 1918)

(Pl. 1, fig. 9; Pl. 4, fig. 28; Pl. 8, figs 51–56; Pl. 27, fig. 122; Text-fig. 12)

Phthorimaea mixolitha Meyrick, 1918, *Exot. Microlepidopt.* 2 : 135. Holotype ♂, INDIA: Bihar, Pusa, vi. 1911 (Fletcher) (genitalia slide no. 8307, Clarke; BMNH) [examined].

Phthorimaea mixolitha Meyrick; Meyrick, 1925a : 92.

Phthorimaea mixolitha Meyrick; Gaede, 1937 : 273.

Ornativalka mixolitha (Meyrick) Amsel, 1966 : 128.

Ornativalka mixolitha (Meyrick); Sattler, 1967 : 80.

Phthorimaea mixolitha Meyrick; Clarke, 1969 : 307, pl. 153, figs 2–2b.

Head (Pl. 8, figs 51–56).

GENITALIA ♂. Clarke, 1969, pl. 153, figs 2a–b.

GENITALIA ♀ (Pl. 27, fig. 122).

REMARKS. The specimens from Turkey and a single ♀ from Mongolia are a little bigger and more distinctly marked than typical *mixolitha*. They also differ by their frontal structure. An arc of strongly raised scale bases extends between the antennal pits above the transfrontal sulcus. The strongly developed frontal process is surrounded by three or four irregular rings of enlarged scale bases (Pl. 8, figs 54–56). In a series of specimens from the Sudan the enlarged scale bases are more or less evenly distributed over the frontal area and there is no indication of a frontal process (Pl. 8, figs 51–53). In material from S. Iran specimens with and without a frontal process are found as well as intermediate stages. Specimens from Afghanistan and Pakistan show also some indication of a frontal process. In two specimens from S. Russia: Sarepta the enlarged scale bases are concentrated in the centre of the frons, but no definite process is developed.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in February–August and October.

DISTRIBUTION. U.S.S.R. (S. Russia); Turkey; Sudan; Iraq; Iran; Afghanistan; Pakistan; India (Bihar); Mongolia.

FURTHER MATERIAL EXAMINED.

U.S.S.R.: 1 ♂, 1 ♀, S. Russia, Krasnoarmeysk ('Sarepta'), 5., 6.viii.1870 (*Christoph*) (BMNH) [first record for the U.S.S.R.]. TURKEY: 22 ♂, 17 ♀, Taurus, S. of Mut,

23.v.1969 (*Arenberger*; *Kasy*) (coll. Arenberger, Vienna; coll. Jäckh, Bidingen; NM, Vienna; BMNH); 1 ♂, 1 ♀, road Ankara-Kayseri, 1000 m, 26.vii.1965 (*Glaser*) (coll. Glaser, Vienna); 1 ♂, Köprüköy, Kizilirmak, 750 m, 20.-22.vi.1969 (*Hahn*) (coll. Glaser, Vienna) [first record for Turkey]. SUDAN: 1 ♂, Wadi Halfa, 20.-25.i.1962 (*Nubien Exp. Mus. Vind.*) (NM, Vienna); 2 ♂, 1 ♀, Faras W, N. of Wadi Halfa, 3.ii.1962 (*Nubien Exp. Mus. Vind.*) (NM, Vienna); 1 ♂, 1 ♀, Khor Musa Pascha, S. of Wadi Halfa, 27. i., 10.ii.1962 (*Nubien Exp. Mus. Vind.*) (NM, Vienna). IRAN: 1 ♀, [Luristan,] 8 km E. of Bandar-Abbas, 23.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 13 ♂, 20 ♀, [Luristan,] 17 km E. of Bandar-Abbas, dunes, 23.iii.-15.iv.1972, 15.-26.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 1 ♂, 2 ♀, [Luristan,] 22 km E. of Bandar-Abbas, 19.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 3 ♂, 7 ♀, [Luristan,] 30 km E. of Bandar-Abbas, 3.iv.1970, 25.iii.1972, 8.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna; BMNH); 2 ♀, [Luristan,] 13 km NE. of Bandar-Abbas, 24.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 1 ♀, [Luristan,] 22 km N. of Bandar-Abbas, 18.iv.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 2 ♂, 3 ♀, [Luristan,] 25 km S. of Minab, 4.v.1974 (*Exped. Mus. Vind.*) (NM, Vienna); 1 ♂, Baluchestan, Iranshar, 800 m, 11.-21.v.1954 (*Richter & Schäuuffele*) (SMN, Stuttgart) [first record for Iran.] AFGHANISTAN: 2 ♂, E. of Kandahar, 27.vi.1963 (*Kasy & Vartian*) (NM, Vienna) [first record for Afghanistan]. PAKISTAN: 2 ♂, 2 ♀, Karachi, vicinity of airport, 23.ii.-9.iii.1961 (*Vartian*) (NM, Vienna) [first record for Pakistan]. MONGOLIA: 1 ♀, Bajanchongor aimak, between Bajangobi and Somon Bajanleg, 26 km SE. of Bajanleg, 1450 m, 1.vii.1967 (*Kaszab*, no. 876) (TM, Budapest) [first record for Mongolia].

Ornativálva mixolitha bipunctella Sattler, 1967

Ornativálva mixolitha bipunctella Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26** (3) : 81, pl. 8, fig. 40. Holotype ♂, ALGERIA: Laghouat, 18.-20.viii.1919 (*Dumont*) (genitalia slide no. 399c, Sattler; MNHN, Paris) [examined].

Ornativálva mixolitha bipunctella Amsel, 1966 : 128. Nomen nudum.

Head as in the nominate subspecies.

GENITALIA ♂. Sattler, 1967, pl. 8, fig. 40.

GENITALIA ♀. As in the nominate subspecies.

REMARKS. The frontal structures of *bipunctella* are variable as in the nominate subspecies; however, no extreme frontal process as in Turkish and Mongolian *mixolitha* was observed.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in March-September.

DISTRIBUTION. Morocco; Algeria; Tunisia.

Ornativálva angulatella (Chrétien, 1915)

(Pl. 9, figs 57-59)

Gelechia angulatella Chrétien, 1915, *Annls Soc. ent. Fr.* **84** : 318. Lectotype ♀, TUNISIA: Tozeur, 20.vi.1907 (*Chrétien*) (MNHN, Paris), designated by Sattler (1967 : 87) [examined].

Gelechia angulatella Chrétien; Meyrick, 1925a : 79.

Gelechia nigrosubvittatella Lucas, 1933, *Bull. Soc. ent. Fr.* **38** : 199. Holotype ♂, ALGERIA: Guelt-es-Stel, 11.X.1931 (Lucas) (genitalia slide no. 404c, Sattler; MNHN, Paris) [examined]. [Synonymized by Sattler, 1967 : 83.]

Gelechia angulatella Chrétien; Gaede, 1937 : 147.

Gelechia nigrosubvittatella Lucas; Gaede, 1937 : 193.

Ornativulva angulatella (Chrétien) Sattler, 1967 : 81, 87, pl. 8, fig. 41.

Head (Pl. 9, figs 57-59) without frontal process. Enlarged scale bases evenly distributed over frons and anterior part of vertex.

GENITALIA ♂. Sattler, 1967, pl. 8, fig. 41.

REMARKS. The frontal modifications are similar to those of *cerostomatella* and certain specimens of *mixolitha*. The enlarged scale bases of *cerostomatella* are stronger and appear to be fewer. *O. mixolitha* possesses no enlarged scale bases on the vertex except a single row above the transfrontal sulcus.

The frenulum of the ♀ is triple. The ♀ genitalia do not differ from those of *mixolitha*, *cerostomatella* and *mongolica*.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in March-June and October.

DISTRIBUTION. Algeria; Tunisia.

Ornativulva cornifrons sp. n.

(Pl. 1, fig. 13; Pl. 4, fig. 29; Pl. 12, figs 78-80; Pl. 19, fig. 101; Pl. 27, fig. 123)

♂, ♀. 5.0-6.0 mm. Head (Pl. 12, figs 78-80) with strong frontal process with smaller dorsal and ventral processes at base, surrounded by ring of approximately 20 strongly enlarged scale bases. Head white, narrow stripe along eye brown. Labial palpus white, outer surface of first segment brown; second segment with loose brush of long white and brown scales below. Thorax white, tegula brown. Fore wing with dark brown longitudinal band which reaches costa before apex and is interrupted near apex. Termen with dark line along base of fringes. Fringes with dark dividing line and tips. Frenulum of ♀ double.

GENITALIA ♂ (Pl. 19, fig. 101). Eighth tergite weakly sclerotized, pair of narrow transverse stronger sclerotizations on anterior margin and pair of larger ones posteriorly near lateral margin. Posterior margin of uncus with number of long setae, medially with small emargination. Anterior margin of tegumen with deep emargination. Saccus long, wide, gradually narrowing, distally rounded. Anellus lobes large, triangular, setose. Costa distinctly longer than valva, narrow, with parallel margins, apical portion not clavate. Harpe very short, with long terminal seta. Valva almost triangular, outer surface near dorsal margin with long stiff seta in group of shorter setae. Sacculus not separated from valva. Aedeagus with bulbous base; curved apical portion strong, apex rounded.

GENITALIA ♀ (Pl. 27, fig. 123). Posterior margin of seventh tergite sinuate. Apophyses anteriores very short, bases connected by narrow sclerotization along anterior margin of eighth sternite. Antrum with short sclerotized ring, opens directly into corpus bursae; no long ductus bursae. Corpus bursae elongate, inner surface minutely spined; cervix bursae and antrum without minute spines. Signum near middle of corpus bursae, transverse, with pair of serrated ridges.

REMARKS. *O. cornifrons* differs from most *Ornativulva* species by the conspicuous longitudinal band of the fore wing. *O. cerostomatella* with a similar band is generally larger and the ground colour of the fore wing is ochreous, not white. The thorax

of *cerostomatella* is divided by a dark longitudinal line and the head lacks a frontal process. In the ♂ genitalia *cornifrons* differs from all other species of the *cerostomatella*-group (except *acutivalva*) by the uncus, which is not deeply divided, the short triangular valva and the large saccus. The aedeagus is similar to that of *curvella* but differs in details of the apex structure.

The ♀ genitalia are similar to those of *afghana*. The periostial region is completely membranous whereas in *afghana* it is partially sclerotized. The posterior margin of the seventh tergite is sinuate in *cornifrons* but straight in *afghana*.

BIOLOGY. Host-plant unknown. The type-specimens have been collected by Kaszab in June–July in a locality where *Tamarix* occurs (Kaszab, 1968 : 31).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (Kaszab, no. 882) (TM, Budapest).

Paratypes. MONGOLIA: 10 ♂, 3 ♀, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (Kaszab, no. 882) (TM, Budapest; BMNH); 1 ♂, Bajanchongor aimak, oasis Dzun mod, 100 km S. of Somon Schine žinst, 1300 m, 29.vi.1967 (Kaszab, no. 869) (TM, Budapest).

Ornativalva cerostomatella (Walsingham, 1904)

(Pl. 9, figs 60–62; Text-fig. 11)

- Gelechia cerostomatella* Walsingham, 1904, *Entomologist's mon. Mag.* **40** : 266. Holotype ♀ [not ♂, as stated by Walsingham], ALGERIA: Biskra, 15.iv.1903 (Walsingham) (BMNH) [examined].
- Gelechia tripartitella* Mabille, 1907, *Bull. Soc. ent. Fr.* **1907** : 79. Lectotype ♀, TUNISIA: Nefta, Djerid, v. 1904 (Lucas) (genitalia slide no. 369c, Sattler; MNHN, Paris), designated by Viette & Fletcher (1968 : 393) [as holotype] [examined]. [Synonymized by Chrétien, 1917 : 469.]
- Gelechia cerostomatella* Walsingham; Chrétien, 1917 : 469.
- Gelechia cerostomella* Walsingham; Caradja, 1920 : 99. Incorrect subsequent spelling of *cerostomatella* Walsingham.
- Gelechia cerostomella* Meyrick, 1925a, *Genera Insect.* **184** : 79. Unjustified emendation of *cerostomatella* Walsingham.
- Gelechia biclavata* Meyrick, 1934, *Exot. Microlepidopt.* **4** : 511. Holotype ♂, INDIA: Great Indian Desert, xi. 1930 (Glennie) (genitalia slide no. 8288, Clarke; BMNH) [examined]. [Synonymized by Sattler, 1967 : 83.]
- Gelechia biclavata* Meyrick; Gaede, 1937 : 150.
- Gelechia cerostomella* [sic] Walsingham; Gaede, 1937 : 153.
- Gelechia tripartitella* Mabille; Gaede, 1937 : 223.
- Gelechia cerostomatella* Walsingham; Amsel, 1940 : 48.
- Gelechia cerostomatella* Walsingham; Amsel, 1958 : 80.
- Ornativalva cerostomatella* (Walsingham) Sattler, 1960 : 60, pl. 17, fig. 74.
- Ornativalva cerostomatella* (Walsingham); Sattler, 1967 : 83, pl. 2, fig. 13, pl. 8, fig. 42, pl. 15, fig. 66.
- Gelechia tripartitella* Mabille; Viette & Fletcher, 1968 : 393.
- Gelechia biclavata* Meyrick; Clarke, 1969 : 108, pl. 54, figs 1–1b.

Head (Pl. 9, figs 60–62) without frontal process. Scale bases enlarged to coarse teeth. Gentle arc of enlarged scale bases above transfrontal sulcus; some scattered enlarged scale bases on

vertex. Frons below transfrontal sulcus covered with enlarged scale bases, particularly dense concentration in centre of frons.

GENITALIA ♂. Sattler, 1967, pl. 8, fig. 42.

GENITALIA ♀. Sattler, 1967, pl. 15, fig. 66.

REMARKS. The head structure is very similar to that of typical *mixolitha*; it differs by the presence of enlarged scale bases on the vertex in addition to the arc above the transfrontal sulcus.

The frenulum of the ♀ is triple. The ♀ genitalia do not differ from those of *mixolitha*, *angulatella* and *mongolica*.

Gelechia tripartitella Mabille was described from an unspecified number of specimens. The specimen recorded as the 'holotype' by Viette & Fletcher should therefore be considered the lectotype.

Nothris minutella Turati, 1929, *Boll. Lab. Zool. gen. agr. Portici* **23**: 124, fig. 4, was previously synonymized with *O. cerostomatella* (Walsingham) on the basis of Turati's description and poor photographic illustration (Sattler, 1967: 83). Turati based his description on three specimens; however, in his collection there is now only one ♀ without abdomen left. This specimen was made available to me by Count F. Hartig (IE, Bolzano) and bears the following labels: 'Typus' - 'Tripolitania Nord-Africa, Sidi Mesri, 21-23 Marzo 1924, Romei' - '*Nothris minutella* Trt, Typ'. It proved to be an *Anarsia* species (possibly a synonym of *Anarsia luticostella* Chrétien, 1915) and is here removed from synonymy: *Anarsia minutella* (Turati, 1929) **comb. n., sp. rev.** Consequently Libya must be eliminated from the distribution of *cerostomatella*, although the species will undoubtedly be found there.

BIOLOGY. Host-plant unknown. Moths have been taken by various collectors in February-August.

DISTRIBUTION. Mauritania; Algeria; Tunisia; Egypt; Saudi Arabia; India.

FURTHER MATERIAL EXAMINED.

MAURITANIA: 1 ♀, between Kiffa and Tidjidja, 1931 (*Steele*) (BMNH) [first record for Mauritania]. EGYPT: 1 ♀, Romani, 30.vii.1916 (*Boyd*) (BMNH) [first record for Egypt].

Ornativulva mongolica Sattler, 1967

(Pl. 1, fig. 10; Pl. 4, fig. 30; Pl. 10, figs 63-65)

Ornativulva mongolica Sattler, 1967, *Beitr. naturk. Forsch. SüdwDil.* **26** (3): 85, pl. 18, fig. 76.

Holotype ♂, MONGOLIA: East Gobi aimak, Cagan Elis, 30 km ESE. of Zuun-Bajan, 800 m, 22.vi.1963 (*Kaszab*, no. 21) (TM, Budapest) [examined].

Head (Pl. 10, figs 63-65) with frons strongly prominent but without definite process. Scale bases very strong, arranged in irregular rings on frons; small group on vertex above transfrontal sulcus.

GENITALIA ♂. Sattler, 1967, pl. 18, fig. 76.

REMARKS. The frontal structure of *mongolica* is similar to that of *cerostomatella* but the frons is more prominent and the enlarged scale bases are fewer and stronger.

The frenulum of the ♀ is double. The ♀ genitalia do not differ from those of *mixolitha*, *angulatella* and *cerostomatella*.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab in June–July in a locality where *Tamarix* occurs (Kaszab, 1968 : 31).

DISTRIBUTION. Mongolia.

FURTHER MATERIAL EXAMINED.

MONGOLIA: 3 ♂, Uburchangaj aimak, 130 km ESE. of Somon Bajanleg, 1150 m, 3.vii.1967 (Kaszab, no. 882) (TM, Budapest; BMNH); 1 ♀, Bajanchongor aimak, 8 km ESE. of Somon Bajanleg, 1350 m, 2.vii.1967 (Kaszab, no. 879) (TM, Budapest); 2 ♀, Bajanchongor aimak, SE. corner of lake Orog nur, 1200 m, 23.vi.1964 (Kaszab, no. 183) (TM, Budapest).

Ornativalka afghana Sattler, 1967

(Pl. 1, figs 11, 12; Pl. 4, fig. 31; Pl. 11, figs 69–74; Pl. 12, figs 75–77; Pl. 20, fig. 102; Pl. 27, fig. 124)

Ornativalka afghana Sattler, 1967, *Beitr. naturk. Forsch. SüdwDtl.* **26** (3) : 75, pl. 17, fig. 72, pl. 18, fig. 77; pl. 19, fig. 79. Holotype ♂, AFGHANISTAN: SE. of Shindan, ca 150 km S. of Herat, 25.vi.1963 (Kasy & Vartian) (genitalia slide no. 3276; NM, Vienna) [examined].

Head (Pl. 11, figs 69–74; Pl. 12, figs 75–77) with enlarged scale bases fused to form strong arc above transfrontal sulcus. Entire frons densely set with enlarged scale bases. Frontal process short, truncate.

GENITALIA ♂ (Pl. 20, fig. 102).

GENITALIA ♀ (Pl. 27, fig. 124).

REMARKS. The Mongolian specimens differ from the type-series from Afghanistan. On the head of Mongolian specimens the arc above the transfrontal sulcus is more strongly developed, the frontal process is approximately twice the length of that of specimens from Afghanistan and the enlarged scale bases on the frons are fewer and stronger. The fore wings of Mongolian specimens appear narrower and the line that separates the dark costal and the light posterior half of the wing is clearly W-shaped in the fold. In the ♂ genitalia the harpe is narrower in Mongolian specimens. In the ♀ genitalia the eighth tergite of specimens from Afghanistan has a distinct dent above the spiracle (this dent is not visible in the illustration given by Sattler, 1967, pl. 17, fig. 72) and the sclerotization on the anterior margin of the eighth sternite is much broader than in the Mongolian specimens and surrounds most of the ostium bursae.

The frontal structure of the Mongolian specimens resembles that of *mixolitha* specimens from Turkey and Mongolia, but the frontal process is clearly truncate in *afghana*.

The frenulum of the ♀ is triple.

BIOLOGY. Host-plant unknown. The Mongolian specimens have been collected

by Kaszab in a locality where *Tamarix* occurs (Kaszab, 1966 : 591). Moths have been collected by Kasy and Vartian and Kaszab at the end of June.

DISTRIBUTION. Afghanistan; Mongolia.

FURTHER MATERIAL EXAMINED.

MONGOLIA: 6 ♂, 1 ♀, Gobi Altaj aimak, Zachuj Gobi, 10 km N. of Chatan chajrchan mountains, 1150 m, 27.vi.1966 (Kaszab, no. 594) (TM, Budapest; BMNH) [first record for Mongolia].

***Ornativalka curvella* sp. n.**

(Pl. 10, figs 66–68; Pl. 20, fig. 103; Text-figs 26, 27)

♂. 7.0 mm. Head (Pl. 10, figs 66–68) with enlarged scale bases on vertex fused to form strong arc above transfrontal sulcus. Enlarged scale bases on frons strong, arranged in irregular rings, densely concentrated below transfrontal sulcus; frons irregularly prominent. Labial palpus pale, outer surface of second segment with light brown patches near base and below apex. Costal half of fore wing greyish brown, darkest at fold, with two dark angular projections extending across fold into lighter posterior half of wing. Small dark brown dot in cell and slightly larger dot at end of cell.

GENITALIA ♂ (Pl. 20, fig. 103; Text-figs 26, 27). Eighth tergite membranous with narrow transverse sclerotized band on anterior margin and pair of longitudinal bands laterally near posterior margin. Eighth sternite rounded, weakly sclerotized. Uncus strongly developed, posteriorly truncate, lateral portion strongly sclerotized, large posterior area of tegumen membranous. Inner surface of uncus set with small number of long setae near posterior margin. Costa nearly as long as valva, narrow, distal two-thirds strongly curved dorsad. Harpe a broad rounded process at base of costa. Distal two-thirds of valva narrow, distal third strongly curved dorsad, apex rounded, without terminal spine. Anellus lobes rounded. Saccus large. Aedeagus with clearly defined bulbous base and narrow, strongly curved apical portion.

GENITALIA ♀. Unknown.

REMARKS. The frontal structures of *curvella* are similar to those of *mongolica* but differ by the clearly defined arc above the transfrontal sulcus and the irregular process below the sulcus. The only specimen of *curvella* is poorly preserved. The ♂ genitalia with the well developed uncus and strongly curved costa and valva do not closely resemble those of any other species.

BIOLOGY. Host-plant unknown. The holotype has been collected by Kaszab at light in a locality where *Tamarix* occurs (Kaszab, 1966 : 591).

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: Gobi Altaj aimak, Zachuj Gobi, 10 km N. of Chatan chajrchan mountains, 1150 m, 27.vi.1966 (Kaszab, no. 594) (genitalia slide no. 647d, Sattler; TM, Budapest).

***Ornativalka acutivalva* sp. n.**

(Pl. 1, fig. 14; Pl. 4, fig. 32; Pl. 20, fig. 104; Pl. 27, fig. 125)

♂, ♀. 5.0–6.0 mm. Head without enlarged scale bases or frontal process. Metascutum with paired group of narrow, hair-like scales (Text-fig. 2). Head ochreous. Labial palpus whitish,

second segment with moderate brush below, only twice as wide as third segment, with brown bands near base and apex with some scattered brown scales in between; apex and broad ring around middle of third segment brown. Scape of antenna brown with white distal ring; flagellum above dark with lighter rings. Thorax ochreous, tegula brown with ochreous apex. Fore wing narrow, costal half mostly dark brown, dorsal half ochreous; dark area distally narrower, not reaching apex, barely reaching fold. Projections of dark area touch fold at one-third and two-thirds without crossing it. Small dark dots in cell and at end of cell in ochreous area but connected with dark area. Some dark scales along termen.

GENITALIA ♂ (Pl. 20, fig. 104). Uncus pointed. Costa slender, as long as valva. Harpe short, rounded. Valva broad at base, tapering, apex rounded, without terminal spine. No separate sacculus. Anellus lobes broad at base, bulging, narrowed at distal third. Aedeagus with bulbous base, distal two-thirds strong, bent near middle, apex rounded.

GENITALIA ♀ (Pl. 27, fig. 125). Apophysis posterior as long as eighth segment. Apophysis anterior very short. Eighth tergite with irregular rows of scale bases at posterior margin. Ductus bursae with open sclerotized ring near ostium bursae. Ductus bursae short, wide, not coiled, gradually widening into corpus bursae. Signum oval, both ends serrated, with pair of transverse folds.

REMARKS. The structure of the anellus and the absence of a separate sacculus in the ♂ genitalia and the presence of scales – not setae – on the eighth tergite, the short apophyses anteriores and the structure of the signum in the ♀ genitalia place *acutivalva* in the *cerostomatella*-group. *O. acutivalva* differs from all other species of the *cerostomatella*-group by the absence of frontal modifications of the head and the presence of long scales on the metascutum. The anellus lobes are similar to those of *angulatella* and *cerostomatella*. All three available ♀ have a variable number of frenulum setae. Two specimens have three setae on the left hind wing and two on the right whereas the third specimen has two on the left and three on the right.

BIOLOGY. Host-plant unknown. Moths have been collected by Kaszab in July.

DISTRIBUTION. Mongolia.

MATERIAL EXAMINED.

Holotype ♂, MONGOLIA: South Gobi aimak, 10 km NNE. of the town Dalanzadgad, 1450 m, 7.vii.1967 (*Kaszab*, no. 898) (TM, Budapest).

Paratypes. MONGOLIA: 10 ♂, 3 ♀, South Gobi aimak, 10 km NNE. of the town Dalanzadgad, 1450 m, 7.vii.1967 (*Kaszab*, no. 898) (TM, Budapest; BMNH); 1 ♂, Middle Gobi aimak, 8 km NW. of Oldoch Chijd, 54 km NNW. of Somon Zogt-Ovoo, 1350 m, 9.vii.1967 (*Kaszab*, no. 905) (TM, Budapest).

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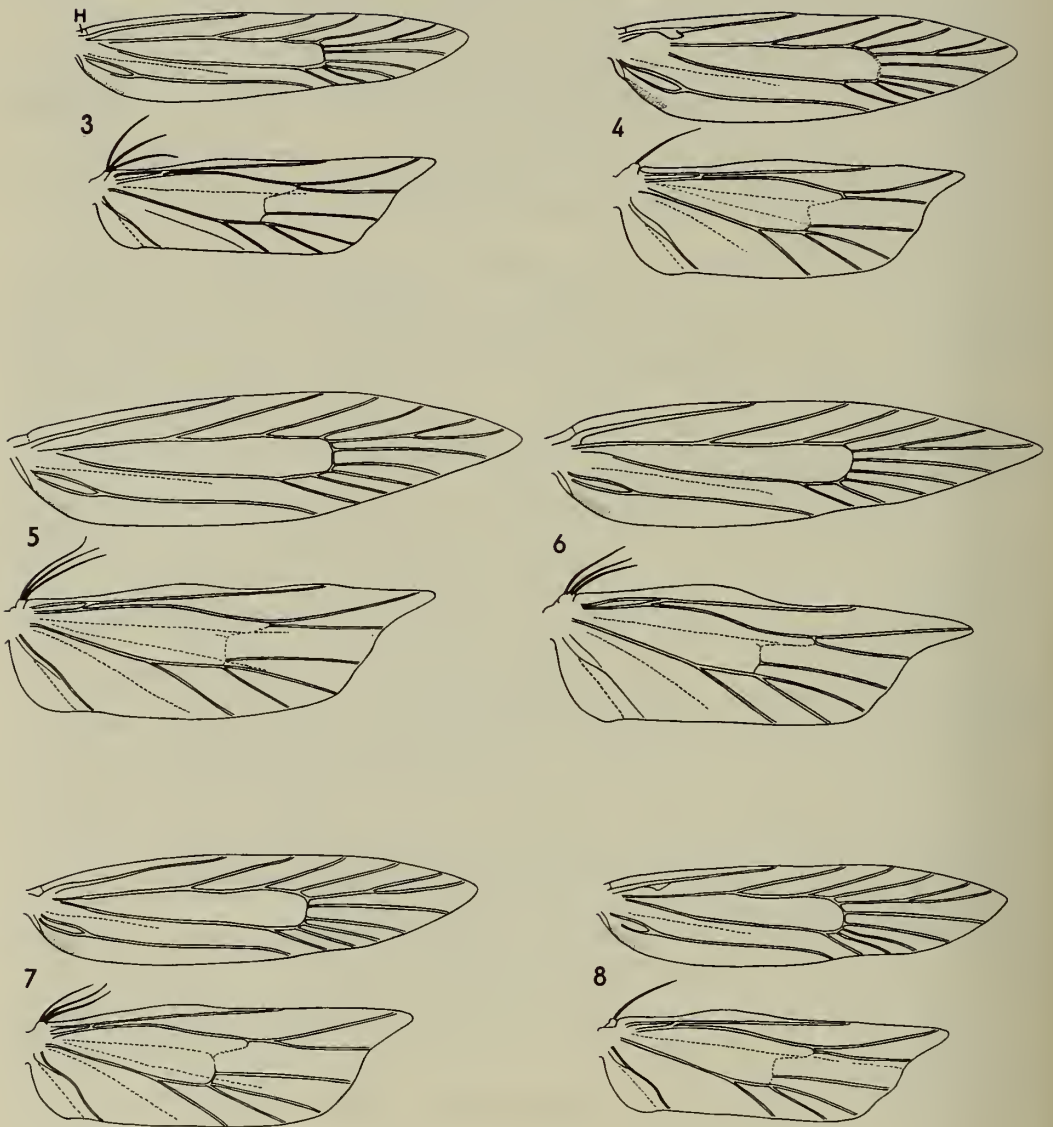
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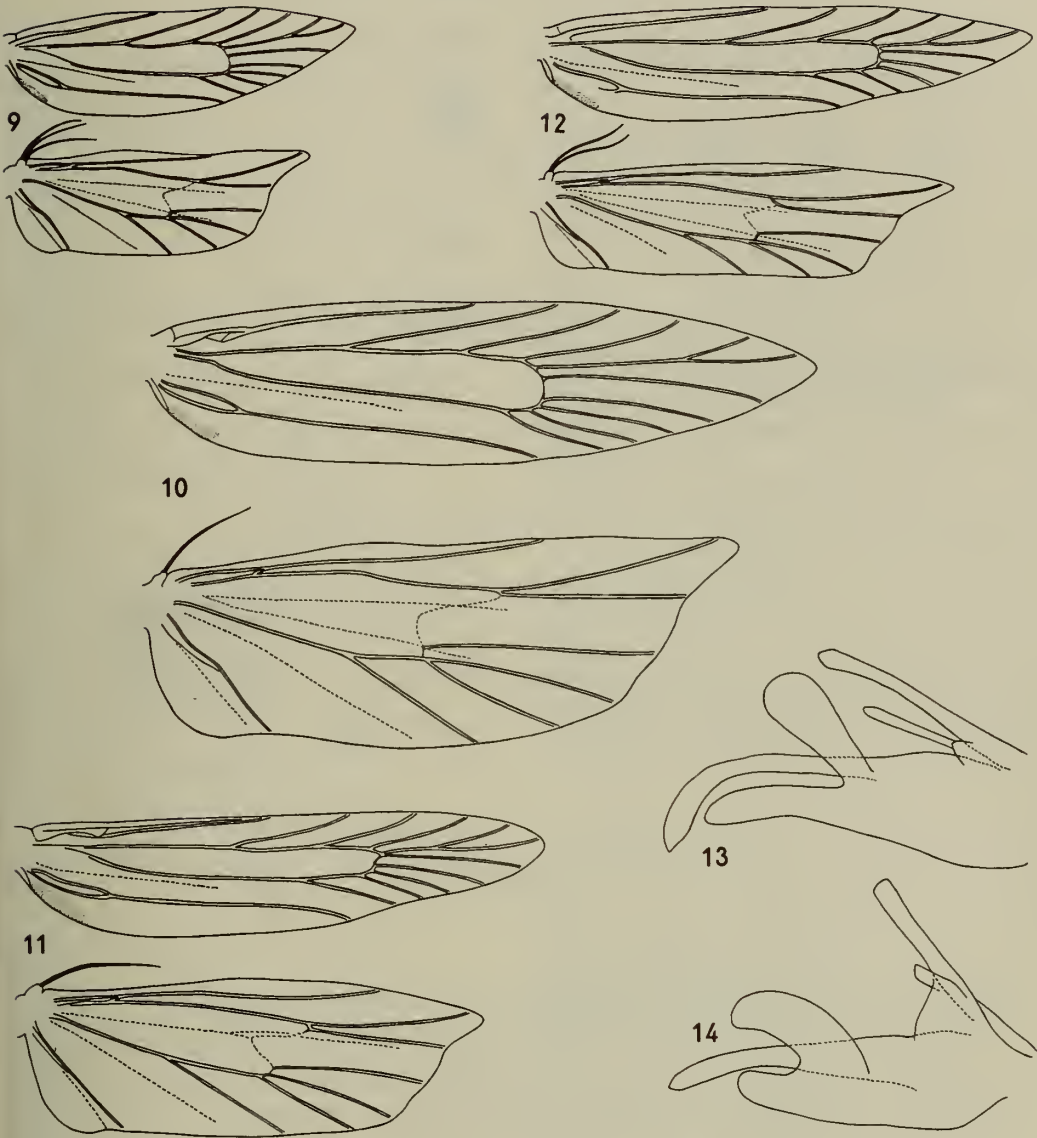
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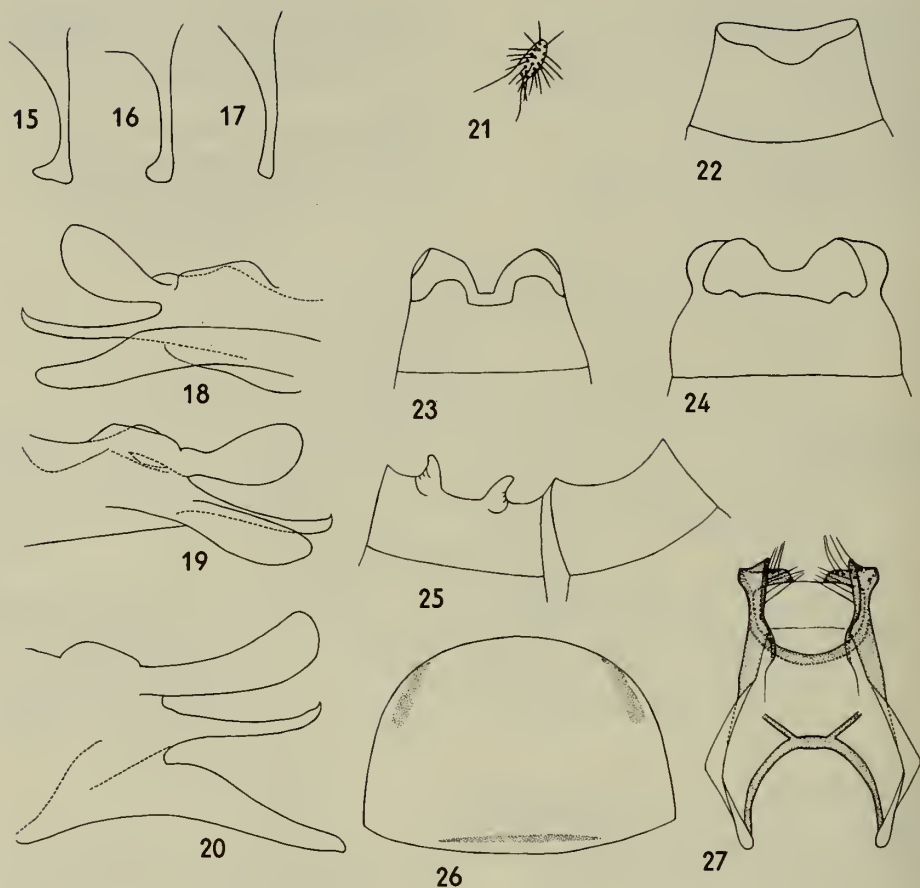
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FIGS 3-8. Wing venation of *Ornativalva* species. (H—humeral field.) 3, *O. heluanensis* (Debski), ♀. 4, *O. erubescens* (Walsingham), ♂. 5, *O. ornatella* Sattler, ♀. 6, *O. plicella* sp. n., ♀. 7, *O. tamariciella* (Zeller), ♀. 8, *O. indica* Sattler, ♂.



FIGS 9-14. 9-12, wing venation of *Ornativalva* species. (9) *O. kalahariensis* (Janse), ♀. (10) *O. plutelliformis* (Staudinger), ♂. (11) *O. cerostomatella* (Walsingham), ♂. (12) *O. mixolitha* (Meyrick), ♀. 13-14, *O. ornatella* Sattler. Outlines of ♂ left valvae. (13) Mongolia (slide no. 14 878; BMNH). (14) Rumania (slide no. 686, Sattler; MINGA, Bucharest).



FIGS 15-27. 15-17, *Ornativalva ornatella* Sattler. Outlines of ♀ apophyses anteriores. (15) Mongolia (slide no. 14 875; BMNH). (16) paratype, Iran (slide no. 3239; NM, Vienna). (17) S. Russia (slide no. 7288; BMNH). 18-20, *O. kalahariensis* (Janse). Outlines of ♂ valvae. (18) left valva, holotype, S. Africa (slide no. 5800, Janse; TM, Pretoria). (19) right valva, holotype, S. Africa (slide no. 5800, Janse; TM, Pretoria). (20) right valva, SW. Africa (slide no. 18 891; BMNH). 21, *O. singula* Sattler. Harpe of ♂, Mongolia (slide no. 649a, Sattler; TM, Budapest). 22-25, seventh abdominal segments of *Ornativalva* ♀. (22) *O. levifrons* sp. n., paratype, Mongolia (slide no. 15 379; BMNH). (23) *O. species 1*, Mongolia (slide no. 650, Sattler; TM, Budapest). (24) *O. ornatella* Sattler, Mongolia (slide no. 14 875; BMNH). (25) *O. singula* Sattler, Mongolia (slide no. 15 731; BMNH) (sternite left, tergite right). 26-27, *O. curvella* sp. n., holotype ♂, Mongolia (slide no. 647d, Sattler; TM, Budapest). (26) eighth abdominal tergite. (27) uncus and tegumen.

INDEX

Synonyms and unavailable names are in *italics*.Page numbers of principal references are in **bold**.

- acutivalva* sp. n., 97, 98, 101, 135, 139, **142**,
 143
afghana Sattler, 96, 98, 101, 139, **141**
Agdistis Hübner, 102
Altenia Sattler, 95
Anarsia Zeller, 87, 140
angulatella Chrétien, 96, 98, 101, 136, **137**,
 138, 140, 141, 143
antipyramis Meyrick, 97, 99, 100, 124, **128**,
 129, 132
arabica Sattler, 97, 99, 100, 107, **114**, 119
aspera sp. n., 96, 98, 100, 107, 108, **109**, 110,
 114
auctella nomen nudum, 128, 129, 131, 132

basistriga sp. n., 97, 99, 101, **130**
biclavata Meyrick, 101, **139**
bipunctella Sattler, 101, 136, **137**

caecigena Meyrick, 92, 97, 100, **123**
Cerofrontia Janse, 92
cerostomatella Walsingham, 87, 92, 93, 96,
 98, 101, 136, 138, **139**, 140, 141, 143
cerostomella Meyrick, 101, **139**
Chionodes Hübner, 95, 96
cimelion Amsel, 89, 100, **106**
cornifrons sp. n., 92, 93, 96, 98, 101, **138**, 139
Cosmopterigidae, 92
Crambinae, 92
curvella sp. n., 96, 98, 101, 139, **142**

erubescens Walsingham, 97, 98, 100, 107,
108, 115, 116

frankeniivorella Chrétien, 100, **101**, 102
Friseria Busck, 95
frontella sp. n., 92, 96, 98, 100, **114**

Gelechiidae, 92, 93, 95
Gelechiinae, 95, 96
Gelechiini, 96
Geometridae, 92
Gladiovalva Sattler, 95
Gnorimoschemini, 96
grisea Sattler, 97, 99, 101, 130, **132**, 134
gussakovskii Gerasimov, 93

haligmatodes misspelling, 128, 131
heligmatodes Walsingham, 97, 98, 100, 121,
124, 125, 128

heluanensis Debski, 94, 95, 97, 99, 100, **101**,
 102, 103, 121, 123, 124, 126

ignota Sattler, 97, 99, 100, 106, 108, **115**, 116
Ilseopsis Povolný, 92
indica Sattler, 97, 100, **120**, 121, 126
iranella Sattler, 100, **106**

kalahariensis Janse, 96, 98, 100, **127**

lacertella Walsingham, 128
levifrons sp. n., 97, 99, 100, **107**, 109, 110, 111
lilyella Lucas, 96, 98, 100, 107, **108**, 110, 119
Lita Treitschke, 92
longiductella Sattler, 93, 98, 99, 100, 101,
104, 105
luticostella Chrétien, **140**

macrosignella Sattler, 97, 99, 100, 102, 119,
123, 124, 125, 126
Melitoxoides Janse, 95
minutella Turati, 87, **140**
misma sp. n., 97, 99, 100, 119, **121**
mixolitha Meyrick, 92, 93, 96, 98, 101, **135**,
136, 137, 138, 140, 141
mongolica Sattler, 96, 98, 101, 136, 138, **140**,
 142

nigrosuvittatella Lucas, 101, **138**
Noctuidae, 92

oasicolella Turati, 100, **102**, 103
ochraceofusca Sattler, 97, 99, 100, **111**, 112
olbiaella Millière, 101, **131**, 132
olbienella misspelling, 131
ornatella Sattler, 96, 98, 100, 111, 112, **116**
Ornativalva Gozmány, **91**, 95

Pelostola Janse, **91**, 95, 100
pharaonis Sattler, 92, 97, 99, 100, 119, **120**,
 121
Phycitinae, 92
plicella sp. n., 97, 99, 100, **118**, 119
plutelliformis Staudinger, 94, 95, 97, 99, 101,
 102, 108, 117, 128, 129, 130, **131**, 132, 133,
 134
pseudotamariciella Sattler, 97, 99, 100, **126**
Pterophoridae, 102

- pulchella* sp. n., 92, 96, 98, 100, 107, 109,
110, 114
 Pyralidae, 92

Rhynchopacha Staudinger, 92, 93, 95
roseosuffusella Sattler, 98, 99, 100, **105**
rufipuncta sp. n., 93, 94, 97, 99, 100, 101,
104, 105

Scrobipalpa Janse, 92, 95
 Scythrididae, 93
serratisignella Sattler, 92, 97, 100, **122**
sesostrella Rebel, 97, 99, 100, **115**, 116
siculella Mariani, 100, **102**, 103
sieversi Staudinger, 97, 98, 101, 117, 130,
134
siewersiellus Christoph, 89, 101, **131**, 132
singula Sattler, 97, 98, 101, **129**, 130

sinuatella Walsingham, 101, **131**, 132
 Symmocidae, 92

tamaricalis misspelling, 102, 124
tamaricella misspelling, 120
tamariciella Zeller, 94, 97, 99, 100, 101, 102,
 120, 123, 124, **125**, 126
 Teleiodini, 96
 Thaumetopoeidae, 92
 Thyrididae, 92
triangulella Sattler, 97, 99, 100, **128**, 129, 132
trifasciella Rebel, 102
tripartitella Mabille, 101, **139**, 140

undella sp. n., 96, 99, 100, **118**, 119

zonella Chrétien, 98, 99, 100, 101, **105**, 106

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